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DEVELOPMENT OF THE MEANS FOR THE ASSESSMENT OF THE QUALITY OF TEACHING IN ELEMENTARY SCHOOLS.

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DEFINING AND DESCRIBING GOOD TEACHING AND THE PROCESS BY WHICH IT CAN BE DETERMINED WITH RELIABILITY WERE THE GOALS OF THIS STUDY. CHARACTERISTICS OF GOOD TEACHERS WERE DIFFERENTIATED, TEACHING ACTS OF GOOD TEACHERS WERE DEFINED, AND AN OVERALL DESCRIPTION OF GOOD TEACHING WAS DEVELOPED. AS A RESULT OF THE STUDY, A MODEL FOR GOOD TEACHING WAS FORMULATED. A CONCLUSION TO BE DRAWN FROM THIS STUDY OF TEACHERS IS THAT THE RELATIONSHIP OF TEACHER TO CHILD REFLECTS TO A MARKED DEGREE THE ADULT-CHILD RELATIONSHIP OF OUR CULTURE. THE SELECTION OF TEACHERS FOR PROFESSIONAL TRAINING SHOULD CONTINUE TO BE GIVEN CAREFUL ATTENTION. TO BEST CULTIVATE GROWTH AND LEARNING, THE TEACHER SHOULD REMEMBER THAT EACH RESPONSE TO A CHILD IS A MATTER OF CONSCIOUS DISCRIMINATION, AND HE MUST TAKE INTO CONSIDERATION THE REACTION OR RESPONSE OF THE CHILD. (JL)

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A RESEARCH REPORT

ASSESSMENT OF THE QUALITY OF TEACHING IN ELEMENTARY SCHOOLS

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#353

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3414

TABLE OF CONTENTS

CHAPTER PAGE

I. THE SCOPE OF THE STUDY 1

Needed: A Description of Teaching 1

Scope of the Study 9

Background of the Study 10

II. THE TEACHERS OF THE STUDY 15

The Pilot Study 15

The Major Study 17

Schools Represented in the Study 20

III. HOW THE DESCRIPTION OF TEACHING WAS SECURED . . 24

Specimen Records of Teacher Behavior 24

Securing the Specimen Records of Teacher Behavior 36

Analysis of the Specimen Records 40

Function: The Basis For Analysis 41

Example of Record Analysis 43

The Complexity of Teacher Function 51

IV. THE UNIVERSITY OF UTAH REVISION OF THE PROVO CODE FOR THE ANALYSIS OF TEACHING . . . 59

Outline of the University of Utah Revision of the Provo Code for the Analysis of Teaching 60

CHAPTER PAGE

Controlling Functions 62

Imposition of the Teacher 63

Facilitating Functions 66

Functions That Develop Content 69

Functions of Personal Response 71

Functions of Positive Affectivity 72

Functions of Negative Affectivity 73

The Coding of Specimen Records of Teacher Behavior 74

Comprehensiveness of Records 75

Reliability of Coding 79

V. THE DESCRIPTION OF TEACHING 89

The Control of the Teacher 89

The Characteristics of Controlling Functions 95

Control Through Negative Response 120

Amelioration of Controlling Functions 132

Facilitating Functions 143

Functions That Develop Content 144

Functions of Personal Responsiveness 167

Description of Teaching: Summary 181

CHAPTER PAGE

VI. A MODEL OF GOOD TEACHING 188

The Attributes of the Man We Would Have All Children Become 198

Conditions That Foster Individual Growth and Responsibility 201

The Model of Good Teaching 215

VII. ASSESSMENT OF THE QUALITY OF ELEMENTARY TEACHING: A STATISTICAL ANALYSIS 233

Differences Between Judged-Good and Representative Teachers 233

Differences Between Primary and Intermediate Grade Teachers 234

Differences When Teaching is Examined According to Content 239

Differences Among Teacher Groups When Segregated According to Deviations From the Model 255

Differences Among the Thirty-Five Teachers on Each of the Major Categories . 260

Intercorrelation of Categories 275

Summary of Statistical Analysis of Data . . . 283

CHAPTER PAGE

VIII. SUMMARY AND CONCLUSIONS 286

The Subjects 286

The Basic Data 287

The Analysis of the Specimen Records of Teacher Behavior 288

Description of Teaching 289

Differences Between Groups 294

A Definition of Good Teaching 295

Conclusions 298

Postscript: Methodology 305

BIBLIOGRAPHY 310

APPENDIX

A. Materials Related to Chapter II

B. Materials Related to Chapter III

C. Materials Related to Chapter IV

D. Materials Related to Chapter V

E. Two Records of Superior Teaching

F. Materials Related to Chapter VII

LIST OF TABLES

TABLE PAGE

I. Grade Taught, Age, and Experience of the Six Judged-Good Teachers 16

II. Distribution of Twenty-Five Judged-Good Teachers by Grade and District 18

III. Twenty-Five Judged-Good Teachers--Age And Experience 19

IV. The Ten Representative Teachers--Age And Experience 20

V. Over-All Percentage-Agreement on Recoding . . 82

VI. Percentage-Agreement on Recoding of Records Classified According to Content 84

VII. Distribution of Total Number of Teaching Acts Among the Seven Categories for Ninety Minutes Observation for Thirty-five Teachers 85

VIII. Percentage-Agreement on Recoding According to Category 86

IX. Distribution of Records With Fifty Per Cent or More of Total Acts in Controlling . 91

X. Distribution of Records with Forty-One to Forty-Nine per cent of total acts in Controlling 92

TABLE PAGE

XI. Distribution of Records With Forty Per Cent or Less of Total Acts in Controlling 94

XII. Distribution of Records With More Than Ten Per Cent of Total Acts in Negative Affectivity 122

XIII. Distribution of Records With Ten Per Cent or Less of the Total Acts in Negative Affectivity 123

XIV. Distribution of Records With Less Than Ten Per Cent of Total Acts in Positive Affectivity 125

XV. Summary Comparison of Positive and Negative Affectivity for the Three Groups of Teachers 126

XVI. Distribution of Percentage of Dominative Acts of Total Acts for Forty-One Teachers . 129

XVII. Distribution of Records With Twenty Per Cent or More of Total Acts in Development of Content 157

XVIII. Distribution of Records With Less Than Twenty Per Cent of Total Acts in Development of Content 159

TABLE PAGE

XIX. Distribution of Records With Eight Per Cent or More of Total Acts in Responsiveness 176

XX. Distribution of Records With Less Than Eight Per Cent of Total Acts in Responsiveness 177

XXI. Distribution of Percentage of Integrative Acts of Total Acts for Forty-One Teachers 180

XXII. Distribution of Teaching Acts For Six Thirty-Minute Teaching Records Considered to be Nearest to the Model 226

XXIII. Distribution of Teaching Acts for Six Thirty-Minute Teaching Records Considered to be Furthest From the Model 229

XXIV. Distribution of Teaching Acts for Records Where the Controlling Acts Exceed Sixty Per Cent 232

XXV. Analysis of Variance--Judged-Good and Representative Teachers 235

XXVI. Analysis of Variance--Judged-Good and Representative Teachers 236

TABLE PAGE

XXVII. Analysis of Variance--Judged-Good and Representative Teachers 237

XXVIII. Analysis of Variance--Primary and Intermediate Teachers 238

XXIX. Distribution of Teaching Acts for Eleven Primary Grade Teachers and For Eleven Intermediate Grade Teachers 241

XXX. Analysis of Variance--Reading, Social Studies, Activity 243

XXXI. Analysis of Variance--Controlling Functions Reading, Social Studies, Activity 244

XXXII. Analysis of Variance--Teacher Imposition Reading, Social Studies, Activity 246

XXXIII. Analysis of Variance--Content Development Reading, Social Studies, Activity 247

XXXIV. Analysis of Variance--Personal Response Reading, Social Studies, Activity 249

XXXV. Analysis of Variance--Positive Affectivity Reading, Social Studies, Activity 250

XXXVI. Analysis of Variance, Negative Affectivity Reading, Social Studies, Activity 251

XXXVII. Analysis of Variance--Reading, Arithmetic, Activity. 254

TABLE PAGE

XXXVIII. Analysis of Variance--Controlling Functions Good, Middle and Poor Teachers 257

XXXIX. Analysis of Variance--Content Development Good, Middle and Poor Teachers 257

XL. Analysis of Variance--Responsiveness Good, Middle and Poor Teachers 259

XLI. Analysis of Variance--Negative Affectivity Good, Middle, and Poor Teachers 259

XLII. Distribution of Teaching Acts For Twenty-Five Per Cent of the Teachers Considered Nearest the Model 264

XLIII. Distribution of Teaching Acts for Twenty-Five Per Cent of the Teachers Considered to Represent a Middle Position With Reference to the Model. 265

XLIV. Distribution of Teaching Acts for the Twenty-Five Per Cent of the Teachers Considered Furthest From the Model. 266

XLV. Analysis of Variance--Imposition 268

XLVI. Analysis of Variance--Content Development . . 268

XLVII. Mean Number of Teaching Acts in the Category of Functions That Develop Content for Thirty-Five Teachers 269

TABLE PAGE

XLVIII. Analysis of Variance--Positive Affectivity. . 271

XLIX. Analysis of Variance--Negative Affectivity. . 271

L. Analysis of Variance--Total Acts 272

LI. Analysis of Variance--Dominative Behavior . . 274

LII. Analysis of Variance--Integrative Behavior. . 274

LIII. Intercategory Correlations for Reading, Activity, Social Studies, and a Total of All Situations 276

LIST OF FIGURES

FIGURE PAGE

1. Proportion of Acts Classified in Content Development as Used by Three Sixth Grade Teachers in One Thirty-Minute Reading Period 153a
2. Proportion of Acts Classified in Responsiveness Category As Used by Four Fifth Grade Teachers. . 179a
3. Model of Good Teaching Expressed as the Percentage Range For Each Major Function Within Which Teaching Acts Should Fall and the Mean of the Six Thirty-Minute Records Considered to be Nearest the Model 224
4. Pattern of Teaching Acts for Six Thirty-Minute Teaching Records Considered to be Nearest to the Model 225
5. Pattern of Teaching Acts for Six Thirty-Minute Teaching Records Considered to be Furthest From the Model 228
6. Pattern of Teaching Acts for Records Where the Controlling Acts Exceed Sixty Per cent 231
7. Pattern of Teaching Acts for the Mean of Eleven Primary Grade Teachers and for Eleven Intermediate Grade Teachers 240

FIGURE PAGE

8. Analysis of Variance--Interaction: Situation x Category 253

9. Pattern of Teaching Acts For Twenty-Five Per Cent of the Teachers Considered Nearest the Model Based Upon the Mean of the Three Thirty-Minute Records 261

10. Pattern of Teaching Acts for Twenty-Five Per Cent of the Teachers Considered to Represent a Middle Position With Reference to the Model Each Based Upon the Mean of the Three Thirty-Minute Records 262

11. Pattern of Teaching Acts for Twenty-Five Per Cent of the Teachers Considered Furthest From the Model Each Based Upon the Mean of the Three Thirty-Minute Records 263

12. Intercategory Correlation Coefficient Matrix: Reading 277

13. Intercategory Correlation Coefficient Matrix: Social Studies 278

14. Intercategory Correlation Coefficient Matrix: Activity 279

15. Intercategory Correlation Coefficient Matrix: Total for all Situations 280

FIGURE PAGE

16. Distribution of Thirty-Five Teachers by Standard Deviation from their Mean, on Each Category and Total Teaching Acts 300

17. Pattern of Teaching Acts for Three Groups of Teachers Based Upon the Mean of the Three Thirty-Minute Records 301

CHAPTER I

THE SCOPE OF THE STUDY

This report is about teaching. It attempts to describe what goes on in American classrooms for children from kindergarten through the sixth grade. Our special interest is centered in good teaching. Therefore a Model of Good Teaching is presented.

NEEDED: A DESCRIPTION OF TEACHING

The public schools of this country through their local boards of education have remained close to the people. With all the children of all the people in school, the concern for schools and good teaching is widespread. Moreover, the importance and centrality of the school in a democratic country is generally recognized.

The American public school system is a remarkable social invention. It does propose to insure all children an opportunity to attain literacy and ideally to give them a chance to develop to their fullest capacity. There are strong beliefs that the school as a social institution can "keep us ahead" of Russia, can protect health, can prevent delinquency, and can contribute to social status and personal satisfaction. A very great deal is expected of the school. A very great deal has been accomplished.[1] Even so these are new times--it is the latter half of the twentieth century. New knowledge of the universe and most of all new knowledge of human beings and the way they grow and develop is available to us. New knowledge of the conditions which affect the character and personality is available. Certainly there is much that we don't know, but how well are we using what we do have? It is appropriate to ask, "What are schools really like?"

There are numerous ways to go about the job of finding the answers to the question, "What are schools really like?"

1. Schools may be examined from the standpoint of physical plant available to the children. The physical plant may be examined for safety of children; it may be looked at in terms of the space available per child; it may be looked at for its aesthetic quality; it may be looked at for the kind and range of activities made possible by particular architectural features.

2. Schools may be examined for organizational pattern; classes on full or half day sessions; classes

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[1] Henry Steele Commanger, "Our Schools Have Kept Us Free," Life. (October 16, 1950).

on full or half day sessions; classes made up of children within a given test-score intelligence range or test-score reading range; classes that spend their full time with a single teacher or classes that move from teacher to teacher according to subject; classes made up of more than one age or grade level.

3. Schools may be examined by looking at the printed course of study and the adopted textbooks of the state and district.

4. Schools may be examined by visiting classrooms, and talking more or less informally with teachers and children.

5. Schools may be examined for children's growth in the societal acts of reading, arithmetic, and language. For example, how well do the children of given grades do on a specifically chosen standardized test? How well do they know selected science concepts? How many sixth graders spell the (so-called) hundred spelling demons?

These are all good and useful ways of looking at our schools. They are all ways that have been used from time to time. In fact, most boards of education have reports prepared for them containing these kinds of information. In addition, all parents make an informal appraisal of the school every evening that John and Mary or Rosa and Pete have anything to say about it.

Do these ways of appraisal of the school tell us what we want to know about the education of children? Do they furnish us with enough information to tell us what life in school is really like for children? Are the traditional ways of appraising the school comprehensive enough to show the degree to which all the accepted objectives of education are met? For example, a survey of special rooms will not tell how often, what grade, or the manner in which films and the visual aids are used.

The fact that the classes are equal to the national norm in any subject field, reading for example, does not indicate how well the children like to read or whether they choose to do so. A satisfactory score in science does not tell whether or not observational powers have been increased; it does not tell whether or not curiosity has been fostered; it does not tell whether or not there is gain in problem-solving ability and an increase in the perceptual field of the individual defined as an increase in his ability to admit more and more of reality to consciousness.

The presence of well developed and beautifully printed courses of study tell us nothing of their use by teachers.

The attitudes and values of children (and it is attitudes and values that affect behavior) in regard to themselves, others, and the social and physical world are formed in the interactive situation of the classroom. If the school has an effect, it is here that it is exerted.

Does the latter half of the twentieth century call for something more in the way of appraisal of our schools? Are teachers confused by the proposals and counter proposals presently made to improve education? Is it possible for the present proposals to improve education to have equal value and usefulness in the attainment of educational objectives? What is good teaching? It is very instructive to listen to parents' appraisal of teachers in a given school. Remarks like these are heard:

> "My Jane is having a wonderful year with Mrs. ____. You know its funny because Mrs. X's boy didn't get along in her room."
>
> "All my children do well and like school."
>
> "Jack is liking school this year for the first time even though he is with Mrs. _____ whom most people don't like."
>
> "Its funny my children seem to like different teachers. A teacher who is a great favorite with Mary may not be with Tom and Hazel."

These remarks are indicative of the difficulty in appraising classroom instruction. The unique growth pattern of each individual dictates to a large degree the time at which he makes a spurt in growth that is reflected in his school work. The teacher who is fortunate enough to have the child in that year is seen by child and parents as a good teacher. This relationship of the child's own growth to his school work may account in part for the fact that children in rooms of teachers judged good by administrative officers do not show greater progress in a year's time than is made by children in rooms of teachers judged less adequate.[2] Robert Bush studied teacher-pupil relationships in a group of twenty-seven high school teachers in Phoenix. He found no teacher to be effective with all children and no teacher was found to be ineffective with all children.[3]

There is clear evidence that teacher behavior differs from classroom to classroom;[4-5] therefore the conditions of learning for children must differ. It is unrealistic to believe that some conditions are not more conducive to learning than others. For example, Anderson[6] reported that children were more non-conforming in classrooms with teachers who were most dominative.

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[2] William A. McCall, Measurement of Teacher Merit (Raleigh, North Carolina. Department of Public Instruction, 1952), Publication #284.

[3] Robert Bush, Teacher-Pupil Relationships (New York: Prentice Hall, 1954), pp. 85, 198.

[4] John Whithall, "Assessment of the Social-Emotional Climates Experienced by a Group of Seventh Graders as They Moved From Class to Class," Educational and Psychological Measurement, Vol. 12, (1952), pp. 440-451.

[5] Harold Anderson, "Studies of Teachers' Classroom Personalities, II. Effects of Dominative and Integrative Contacts on Children's Classroom Behavior," Applied Psychology Monographs, No. 8, (Stanford: Stanford University Press for American Psychological Association, June 1946).

Since attempts to appraise teaching by the use of various forms of rating scales of personality factors and classroom activities have proved abortive some investigators are turning to the relationships established in the classroom as a more promising factor in teaching efficiency. A. S. Barr of Wisconsin concludes his survey of research in this field with the statement, "We do not yet have an adequate definition of teaching."[7] Later in examining the extensive University of Wisconsin research he wrote, "Teaching effectiveness may be essentially a relationship between teachers, pupils, and other persons directly concerned with the educational undertaking."[8]

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[6] Ibid., pp. 85-87.

[7] Arvill S. Barr, "Teaching Competencies," Encyclopedia of Educational Research, (1950 Ed.), p. 1453.

[8] Arvill S. Barr, "Measurement of Teacher Characteristics and Prediction of Teacher Efficiency," Journal of Educational Research. XXII (June 1952), p. 174.

The American Educational Research Association Committee's "Report on Teaching Effectiveness" emphasized the need for more intimate contact with the data of teaching. Wrote the committee:

> "One source of hope is that crucial insights will occur when educational researchers immerse themselves more thoroughly in the primary data of the teaching process. Sitting in the classrooms, letting the sights and sounds interact with apperceptive processes may give some workers the concepts and hypotheses with which to order the phenomena fruitfully."[9]

This expressed need to know more intimately the life of children in the classroom prompted us to work as we have. We believed that more information was needed to know what actually happened in the classroom day after day. With this information teaching could be described in a more useful manner. We asked the questions: What do teachers actually do? What is school life like for children? When a useable description of teaching became available, it was possible to design a model of good teaching based upon what appeared to us to be the most tenable hypothesis regarding optimum learning conditions. The description of teaching made it possible to relate teacher-behavior directly to the accepted objectives of education; therefore, in addition to the empirical description of teaching, we present a model of good teaching with its supporting rationale.

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[9] American Educational Research Association Committee "Report of the Committee on the Criteria of Teacher Effectiveness," David Ryan, Chairman. Review of Educational Research, Vol. 22. (June 1952), p.261.

SCOPE OF THE STUDY

This study of teaching entitled "The Assessment of The Quality of Teaching in Elementary Schools" is focused directly upon classroom life. It analyzes the interaction of teacher and child, teacher and group, teacher and class. It is believed that the main influence of the teacher is manifest in the process of interacting with children. The use of materials of instruction, the development of units and projects, and the activities of the class are all conditioned by the attitudes of the teacher as he introduces the materials or activities and continues interaction with the children. The processes he uses, the functions he performs in relation to the children of his classroom determine their participation, the degree of choice that is theirs, and even the mental processes they may utilize in their work. In addition, the attitudes of children toward one another and toward others develop, to a large degree, in the framework of the teacher's treatment of individual children.

Our basic data are classroom records of teacher-pupil interaction. These records are analyzed in terms of functions performed by the teacher.

This study attempts to answer these questions:

1. What differences in pattern of teacher acts (functions) may be found among elementary teachers judged as good teachers?

2. What teaching acts are dominant or statistically more frequent among good teachers than among those less adequate?

3. What differences in teaching behavior exist among selected teaching situations, i.e., reading, activity or work period, or a developmental lesson in social studies or arithmetic?

4. What teaching acts or combination of teaching acts appear to stimulate use of higher mental processes, personal involvement, and creativity on the part of the children?

5. How do children view the teacher-learner situation?

6. What is good teaching? What is the rationale that supports the model of good teaching?

BACKGROUND OF THE STUDY

The present study was built upon a Utah sponsored study of teaching under the direction of a committee known as The Utah State Merit Study Committee. In the spring of 1954 three school districts, through a majority positive vote on the part of teachers concerned, accepted the invitation of the Utah Committee to study the problems involved in the merit rating of teachers. Provo City Schools was one of these districts. In January 1955, they secured the services as consultant of the present chief investigator. The Provo Staff[10] had made an earlier decision to focus their research on a description and definition of teaching. It was their belief that methods or instruments for the evaluation of teaching could not be designed in a valid and reliable manner until a more useable description of teaching was available.

Therefore, the first task of the district was to design a research program to lead to a useable description of teaching. For purposes of the study, teaching was defined as interaction in the teacher-learner situation of the classroom and school where the adult holds the position of teacher in relationship to the child.[11] With teaching defined in this manner, the necessary data became records of teacher interaction with children.

The first two years work with the Provo group was spent in the study of teacher-recorded reports of teacher-learner interactive situations. These teacher-made records of classroom interaction were augmented by other records taken by outside observers. It was found that the teacher's own records and the observer records did not differ from one another in terms of pattern of teacher behavior. The records made by observers contained more acts by the teacher but they were acts of the same quality and pattern.[12] These teacher records, secured from kindergarten through high school, were most comprehensive in the kind of situations they encompassed. They were read and analyzed to determine what the teacher was doing in the situation. The question was asked, "What function is performed by the teacher by this act of verbal or nonverbal behavior?" The act could be directed to an individual, to a group, or to the entire class. Out of this analysis the Provo staff developed a Code For The Analysis of Teaching which defined the functions performed by the teacher. This Code comprised some twenty-three functions.[13]

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[10] George L. Miller (Director), Gretta P. Romney, Naoma T. Rowan, Glen R. Brown (1955-56), Edith Stimpson, Loyd C. Whitlock, and Marie M. Hughes (Consultant).

[11] Marie M. Hughes and Provo Research Staff on Merit Study, "Teaching is Interaction," Elementary School Journal, (May 1958), pp. 457-464.

The University of Utah requested and received a grant of money (Project 353) from the United States Office of Education under the Provision of Public Law 531, 83rd Congress.

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[12] Progress Report of the Merit Study of the Provo City Schools, (August 1958).

[13] Ibid., pp. 93-119.

This grant was requested so that further work might be done to define and describe good teaching. It was desirable to work on the problem under conditions free from relationships to merit rating; moreover, the Utah State Merit Study Committee was uninterested and did not find feasible the long term rigorous job that is entailed in the process of describing good teaching with proper reliability and, eventually, testing a definition of good teaching through appropriate procedures.

The present study is concerned with the presentation of a description of teaching as it is found in elementary schools from kindergarten through sixth grade. It places special emphasis upon good teaching, what it is like, when it is found and, more particularly, what it might become. The direction of development of teaching with the supporting reasons for it are made explicit and illustrated from the one-hundred and twenty-nine thirty-minute records of classroom interaction between teacher and children collected in the University of Utah Study.

The Model of Good Teaching may be viewed as an image of potential that suggests the direction and development teaching could take. Since it grows, in part, out of data secured directly from about a hundred classrooms (Provo Data and University of Utah Data), it need not be discouraging. Each teacher works with his own views of what he believes teaching is. It is possible that the study of the Model of Good Teaching with its supporting rationale may suggest a re-evaluation of teaching that will lead to improvement in the classrooms of America.

CHAPTER II

THE TEACHERS OF THE STUDY

An initial question asked in all research is, To what degree can the results of the study be generalized? For what population does it hold true? We do not believe that our data permit us to answer this question as definitely as many will wish. Instead, we shall describe our subjects and the manner in which they were chosen. We shall make the generalizations that appear appropriate to us, and at the same time attempt to present sufficient data to permit the reader to draw his own conclusions.

THE PILOT STUDY

Six Judged-Good Utah Teachers

The first pilot study of the University of Utah included four teachers recommended as good by a central staff of a district adjacent to the University; to these four were added two others used by the University for demonstration work with student teachers. The relevant data on the six teachers may be read from Table I.

TABLE I

GRADE TAUGHT, AGE, AND EXPERIENCE OF THE
SIX JUDGED GOOD TEACHERS
(Utah Pilot Study)

School	Grade	Sex	Age	Experience
6	First	Female	Under 25	2 years
1	Third	Female	Over 45	19 years
2	Fourth	Female	Over 45	6 years
3	Fifth	Male	25 - 30	5 years
4	Sixth	Male	30 - 37	6 years
5	Sixth	Male	30 - 37	8 years

It is of interest to note that these six judged-good teachers taught in three different districts and that no two came from the same building. All but one of the teachers was a graduate of the University of Utah.

The schools cut across all socio-economic lines; however, there were a very limited number of children from specific ethnic or racial groups. Four thirty-minute records, taken at different times during a day, one each week for a month, were secured from this group. A report of this pilot study constitutes Appendix A, since the records were not incorporated in the statistical analysis of the major study. This Pilot Study provided some records taken in the spring to contrast with the fall records and served as a training ground for members of the research staff.

THE MAJOR STUDY

Thirty-Five West Coast Teachers

The subjects in this group were secured upon recommendation of a large county office staff who worked as consultants in the schools of a west coast state. The consultant staff recommended forty teachers from all parts of a large county. It was not unusual to have only one teacher recommended from a building or only two or three teachers within a large district. From this recommended group the Project Staff chose teachers located in five districts contiguous to one another so that a field schedule might be made advantageously with travel kept to the minimum. Table II presents the distribution of the twenty-five judged-good teachers according to grade and district.

TABLE II

DISTRIBUTION OF TWENTY-FIVE JUDGED-GOOD TEACHERS BY GRADE AND DISTRICT

Grade	District A 4 Sch.	 B 3 Sch.	 C 1 Sch.	 D 1 Sch.	 E 5 Sch.	Total	Grade
Kgdn.	1				1	2	Kgdn.
First	1	1		2	1	5	First
Second		3			2	5	Second
Third		1			1	2	Third
Fourth		1	1			2	Fourth
Fifth	2	2			2	6	Fifth
Sixth	1				2	3	Sixth
Totals	5	8	1	2	9	25	

Table III presents the age and experience of the twenty-five judged-good teachers.

TABLE III

TWENTY-FIVE JUDGED-GOOD TEACHERS
AGE AND EXPERIENCE

Age				Experience			
24-30	31-37	38-44	Over 45	4 Years	5-10	10-19	Over 20
7	8	4	6	2	14	6	3

Only one teacher had taught over thirty years. Since we asked for career teachers, defined as those who were at least in their fourth year of teaching, the distribution across age and experience range appears representative of teachers everywhere exclusive of beginners. Several of the older women had started teaching after their families were grown so they had less than ten years experience. Three young men were included in the group of twenty-five judged-good teachers.

Another group included in the major study were ten teachers from one school selected as representative of the twenty-five professional employees in the school. The district personnel nominated two from each grade. In some cases the district personnel saw one teacher in a given grade as "good" within the school and the other as one whose work was of such quality as to cause genuine concern. For some grades no distinction could be made among the teachers. Table IV presents the data on age and experience of the ten representative teachers from one school--grades one through five.

TABLE IV

THE TEN REPRESENTATIVE TEACHERS
AGE AND EXPERIENCE

Age				Experience			
24-30	31-37	38-44	Over 45	4 Years	5-10	10-19	Over 20
1	1	5	3	2	2	5	1

SCHOOLS REPRESENTED IN THE STUDY

There were fourteen buildings located in five school districts in the major study of thirty-five teachers. Each school district had a qualified supervisory staff and each building had a supervising principal.

The school neighborhoods ranged from a relatively low socio-economic area to one of the most select residential districts in the entire geographic area. One school population was largely Mexican-American. It is probable that the largest number of pupils came from middle and lower middle class families with fathers whose jobs in the aircraft, chemical, and manufacturing plants called for some skilled and technical work. As in any large area, the service occupations were well represented. The large number of chain stores and restaurants tended to depress the number of small proprietors, thus a larger number of workers were in jobs that fall in the service classification.

All but one of the districts had experienced phenominal growth with extensive school construction. Only four of the buildings were older than six years and one school was using some portable buildings. All classrooms were attractive in appearance, that is, paint and color were used to advantage. The furnishings allowed for flexible seating arrangements and practically all rooms had sinks, cupboard space, and bulletin boards. The general opinion of the staff was that no room was smaller than the average classroom and that supplies appeared reasonably adequate. Since it is almost axiomatic that no school has a sufficient number of books of proper range in readability and subject matter, it is not possible to do more than report that each classroom had a display of library books.

Some of the schools were on double sessions with one group coming early and another group taking over the classroom in the afternoon. No teacher, except the two kindergarten teachers, was teaching two classes of children.

A deviation practiced in a few of the first grades was that of having part of the group come at the regular time of school beginning; then the remainder of the group arriving later. For an hour the teacher taught the entire class, then the early comers went home and the teacher worked with the smaller group of late comers. This organization was designed to provide opportunity for individual attention to children learning to read. An examination of the records did not disclose any discernable accomodation or change in distribution of teaching functions under these two conditions, hence no adjustment in respect to this arrangement is made in the present report.

The schools in which the teachers worked were like schools that may be duplicated thousands of times throughout this country. The principals were all well-trained men and women; most of them held a master's degree with some training beyond that. They were interested and deeply involved in the welfare of children and teachers. Their willingness to permit the study in their buildings attests to their professional attitude.

The teachers represented many sections of America. Twenty-one of the thirty-five teachers had received their degrees (two cases completed normal training) outside the state in which they were now teaching. Nineteen different states from every geographical region in America were represented in the background of these teachers. As noted in Table II, the age range and range in number of years taught appears representative of that found in most school districts.

Each of the judged good teachers had worked with children in such a way as to have been recognized. They may have been recognized because of their willingness to try new procedures, their organization of the classroom, the products of the children, or their cooperation and willingness to be visited by other teachers. They were responsible, professional people and gave much by permitting the pair of observers to follow them around the classroom as they took the record of teacher interactions with children.

CHAPTER III

HOW THE DESCRIPTION OF TEACHING WAS SECURED

The basic data of this study are three thirty-minute records of teaching (interaction with children) secured on thirty-five teachers in a West Coast state. Twenty-five of these teachers were judged good by a county staff that served as consultants to all the districts of the large county. The twenty-five teachers were selected by the Utah Project Staff from a list of forty because they were in districts contiguous with one another. This latter fact made a practical field schedule possible. Ten of the thirty-five teachers were chosen to be representative of a single large school of twenty-five professional employees. Two teachers were selected by the local administrative staff to represent each grade. For those grades for which differences among teachers were recognized, the local staff chose the teacher considered best and the teacher whose quality of work was a subject for concern.

SPECIMEN RECORDS OF TEACHER BEHAVIOR

Probably all interested parties would agree that the best way to secure a record of what is happening in classrooms would be with motion pictures and sound synchronized.

A recall of experience in the classroom indicates, however, that more than one motion picture camera would be necessary and suggests the need to use some means to show the simultaneity of events. To each event the proper sounds would have to be synchronized. Until the electronic experts and research budgets come to the rescue, some other means must be found to secure a record of behaviors in the classroom. A classroom, no matter how quiet and seemingly quiescent, is the most active and dynamic place in the world. Thirty elementary school children, each in his own way, going about his business of learning and searching for meanings to understand and order his world, make the classroom a place filled with energy, action, and even mystery. We have to acknowledge that it is impossible with our present methods to capture the entire classroom as it is. Some choice must be made.

We centered our interest on teacher-behavior. The records were made with the teacher as the object of observation; therefore, only the interactions in which a teacher was involved were included. For example:

Record 1239

Ch: (Asks for a piece of paper)

T: (Gives paper to child)

Ch: (Asks if he can cut out a smaller piece with the paper cutter)

T: All right.

Ch: (Puts paper in cutter in an awkward and dangerous way)

T: It would be easier if you pulled it this way.
(Teacher shows child how to fix the paper)

T: Do you want to cut it?

Ch: (Starts to cut paper)

T: Keep your fingers out now.
(Teacher watches child cut)

T: That's it!

This simple interaction with one child forms a complete unit within the stream of teacher-behavior that occurred in the thirty-minute period of observation. Although this interaction accounted for only seven out of the 247 functions (acts) performed by the teacher in this period of time, it tells us much about life in the classroom--at least what it was like for one child.

The child initiated two requests--for paper and for permission to use the paper cutter. Both were granted.

The teacher showed concern for the success of the child's use of the paper cutter and his safety.

The teacher respected his original request and need for independence by inviting him to cut the paper after it was properly placed.

There was closure to the interaction when the child finished his cutting successfully and the teacher recognized (reinforced) the correct job with, "That's it!"

It will be noted that the record of such an interaction tells nothing about other children in the room. Another interaction occurring later in the record may be instructive:

Ch: Miss Twelve, look at Pete's ghost.

T: (Stops to look at picture which had been called to her attention)

How did you make the ghost?

Ch: He made it out of cloth.

T: Did you make it out of felt?
(Touches ghost with the tip of her finger)

Pete: (Tells of mother making skirt for sister and allowing him to have the left-over pieces to bring to school)

T: That's a good old ghost! He really looks spooky flying through the air.

From this little interaction of six teacher-acts we can see the supportiveness of the teacher for something a little out of the ordinary. Again the teacher grants a child's request by stopping when asked. But more than that, we learn something of relationships among children. One child was able to admire and want the teacher to admire that which belonged to another child.

The interactions at the close of this activity period show other things that were captured in this thirty-minute specimen record of teacher-behavior:

Ch: Miss Twelve, would you help me do this?

T: Miss Twelve would love to help you but it is time to put our things away.

T: ....and our yarn box needs to be straightened up there. We'll have to have another time to finish these things, boys and girls.

Ch: Miss Twelve, I didn't even get to use these.

T: Well, could you put them back over there then?

Ch: (Shows picture to teacher)

T: It looks nice on yellow, doesn't it?

(To boy still cutting paper) Put your things away now.

(Turns off light)

(To class) When you are finished, sit down at your table so we'll know when you're ready. (Pause) When you are finished, if you sit down, we'll know when you are ready

Ch: (Cleaning up)

T: Don't throw the scraps away, honey, we'll put those in our envelope.

(To another child) Pick up all those things. (Pause) Pick up everything.

(To another child) Are you all finished?

Ch: No.

T: Well, put it some place where you can take care of it until you have time to finish it.

Ch: Will I have time to finish it today?

T: I'm not sure we'll have time today, but if we don't we'll have another period to finish our Halloween things.

Ch: How about the ....?

T: I believe that belongs to Miss Twelve. Will you put it on the desk, please?

The final part of the record, obtained at the close of the children's work period, gives us added information about the behavior of the teacher in this room. At this time the teacher was working with the entire class. She continued her positive response to the children. She was supportive when they hadn't finished the things they were making, but she was pleasantly firm about its being clean-up time.

The specimen record, as used in this study, is a detailed, sequential narrative of thirty-minutes of teacher-behavior in the classroom situation as seen by two skilled observers. Barker and Wright of the University of Kansas have done the most work with specimen records of behavior. In the report of their seven year study, they have this to say about such records.

> One obviously cannot hope to find in a specimen record a complete description of either the action or the total situation of an episode. The state of the person and the content of the psychological environment cannot be completely determined by presently available methods for the diagnosis of either naturally occurring or experimentally created situations; nor is it possible to describe fully by any available means the content and properties of an action by the person. We nonetheless hope to demonstrate that some essential dimensions (italics ours) of the molar behavior unit and its context in an episode can be reconstructed on the basis of materials in a specimen record.[14]

We recognize that a great deal of action occurred in the classroom that we did not get. Of particular interest was the behavior and activities of children with whom the teacher was not interacting. Since the focus was on teacher-behavior, it was impossible to record all the activities of "other" children. To illustrate: Teacher Nine, in one thirty-minute period, was working with a small group of nine children who were reading and acting out a story with the use of the flannel board. Throughout the entire period the other children in the room were busy with individual and small group activities. The record shows that the teacher interacted with the one group only. No direction, admonishment, or support was given to children not in the small group. The record will not show what the children at their tables were doing or the interest they must have had to work as well as they did. To record more than we did requires additional observers and different methodology; then, of course, the data would comprise more than specimen records of teacher-behavior.

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[14] Roger Barker and Halbert Wright, Midwest and Its Children, the Psychological Ecology of an American Town (Evanston, Illinois: Row, Peterson, and Co., 1954), pp. 229-230.

We do believe that the data we have are of the greatest importance. What we have recorded really happened in the classroom in the sequence recorded. As Barker and Wright have written, "One can take recorded episodes much as a medical student takes the slides of a series and study them one by one from the standpoint of their action and situation content."[15]

Prescott, a careful observer of the classroom and one who has long worked to improve learning conditions for children, has said, "The crux of the educative process is what teachers say and do and how they feel when interacting with children in the classroom."[16]

Marie Rasey concurs with this statement, "The teacher's constellations of meanings expressed in what he does and what he is may prove more important than the things he knows in an academic sense."[17]

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[15] Ibid., p. 233.

[16] Daniel Prescott, The Child In The Educative Process (New York: McGraw Hill, 1957), p. 99.

The specimen records of teacher-behavior have several advantages over the use of rating scales and check lists more commonly employed.[18]

First, such records enable us to "hold teaching still" in a permanent form so that it may be studied and its distinctive quality and characteristics identified. One can read and reread a specimen record of teacher-behavior until the children and teacher who are interacting within the situation come alive.

Second, the behavior phenomena and situation are secured at the time of occurrence.

Third, the interdependencies and the complexities of behavior and situation are more often than not preserved. It is possible to trace through an interaction with a given child from the first minute of the record to the last minute although dozens of interactions with other children intervene. To illustrate:

Record 1527

> The teacher was working with the entire class as a group listing ways they could make use of their books and stories.

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[17] Marie Rasey, "Children Come By Meanings," Childhood Education, Vol. XXXI (Dec. 1954), p. 163.

[18] Barker and Wright, op. cit., pp. 195-205. (Adapted)

(Page 1)

T: Now we're going to label the ways of reporting on our books and stories.
(Writes "Ways of Reporting on Books and Stories" on the board)

Now as you give your way, tell about it. Don't just say you do it but tell how you do it. All right, someone volunteer. (Hands) Roger. (Calls on child)

(Children offer suggestions - teacher writes on board)

T: (Writes: 1. Chart)

Carl: (Speaks out)

T: What do you do, Carl, to make me call on you?

Carl: (Puts his hand up)

T: Keep your hand up. (Pause)

All right, Carl.

Carl: (Replies)

T: You mean make a chart for the class, Carl.
(Writes "Class" after chart)

(More suggestions offered)

T: (Writes "Outline" on board)

Ch: Outline of book?

(Page 2)

T: What do you mean, Jim? You heard Carl say ...

Jim: Talk about it ...

Carl: (Talks) (Jim and Carl exchange ideas)

T: Let's just have one at a time.

Ch: Tell about one page and what happened on it.

T: All right, something like we did in social studies. We took a main part and put the smaller parts with it. Then what?

(Hands) Carl.

Carl: .... helps in making report.

T: It helps in reporting back on reading to be sure of what you read.

(Children offer more ideas)

(Page 3)

(One child gives idea that is similar to one already listed on board)

T: That would be "Write About." Get some different things. Sally, what was it that you did the other day?

Carl: (Starts to reply)

T: Are you Sally, Carl? Sally.

(Interaction with several children)

(Page 4)

T: Something went wrong. We didn't finish it but it just sort of broke up. We had other things to do. (Hands) Carl.

Carl: .....get a big sheet of paper ......
(Experience chart)

T: That would still be a story.

(Interaction with more children)

(Page 6)

T: It's called a peep show.

(Children begin clamor) I'm not talking with you. I know we get real excited (Slight quietening of clamor) I know we get real excited when we're talking and blurt out, but you know when we're talking in class we raise our hands.

(To boy still talking) Carl ...

Then I can get around to all of you in time. Don't be impatient.

Carl, do you have something?

Carl: No.

T: Oh, all right. (Calls on another child)

(Page 8)

T: (Clamor breaks out) Well, I'm sorry, you people. (Goes to board and under the heading "Names" writes Donald, Ellen, Carl)

(Page 10)

Ch: (Teacher and children review ideas listed on the board)

Ch: Carl is eating his pencil.

T: Maybe he's hungry.

Carl: Is there any law against it?

Ch: He's chewing on the red thing on the pencil and swallowing it.

T: Maybe he's hungry.

Fourth, the continuity of the teacher's behavior is retained.

Fifth, the specimen record of teacher-behavior is theoretically neutral. No judgment is made in regard to what is taking place. The record itself mirrors exactly what happened rather than what anyone thought about the episodes.

Sixth, the permanency of the record makes it possible to examine it through the use of any number of conceptual formulations. It may be examined for different purposes by those with differing interests. It may be looked at in its entirety or examined interaction by interaction. More than anything else, the specimen records of teacher-behavior provide an intimate picture of the classroom in its day by day reality.

The securing of such records is time consuming; also specimen records have no built-in method for quantification. We shall now report the manner in which we handled these problems.

SECURING THE SPECIMEN RECORDS OF TEACHER BEHAVIOR

The principals of the schools were all agreeable and cooperative with the project. As the judged-good teachers were on an official demonstration list, they were accustomed to visitors and, so far as we know, accepted the project.

The representative teachers were told that the school was cooperating in this out-of-state project. There were excellent administrator-teacher relationships in the school and we had no evidence that the teachers were unhappy about the arrangements. We can state categorically that all field work was done under the best of conditions of cooperation.

To record a range in teacher behavior, we asked each teacher to present a reading lesson in his most usual way; to teach a developmental lesson in social studies or arithmetic, and to teach in a so-called work or activity period. We wanted to give as much autonomy as possible to the teacher; therefore, he decided the order in which he wished to present the lessons and the time he wanted the observers. This arrangement resulted in randomization of content as related to order of observation. Subsequent analysis of variance demonstrated that there was no statistical difference between the first, second, or third observations. (Appendix B)

The latter is offered as some evidence that the factors present, because of a pair of observers in the room, were constant or randomized in such a way that the data from one period of observation to another are affected in like manner.

It is impossible to assess the effects of the presence of observers. All teachers had the schedule of observation several days in advance. In most cases, they had designated the time they wished and the principal had incorporated their preference in the schedule. We held the hypothesis that a teacher who felt nervous might be more active during the initial visit; therefore, the records were examined to determine whether or not a teacher performed more functions (acts) during the first thirty-minute observation. No relationship to order of observation was found.

The observers were trained school people who had learned to be unobtrusive in their record-taking. Many teachers commented about their pleasantness, skill, and businesslike manner as they went about their work.

The specimen records of teacher behavior were secured by two trained observers in the classroom who recorded the same behavior according to these directions:

> You are to focus your attention upon the teacher and what he says and does. To the extent possible, record his non-verbal behavior. Make sure that you secure as much as possible of what the children say to one another when in interaction with the teacher. It is of crucial importance to get the child's statement or action that prompts the response of the teacher and, in turn, to secure the child's response to the teacher. The to whom the teacher is speaking should be made explicit. When children's names are not heard, child^1, child^2, etc., may be used.

> You will find it necessary to follow the teacher about the room in order to hear what he says. Immediately after taking the record, fill in your shorthand and abbreviations so that you can read the record, then collate your record with your partner in observation. Retain in the final record only that upon which you both agree.

Two and one-half years of previous experience with record-taking had demonstrated to us the rapidity and the variety of action in the classroom. We found the record-taking method as described to be adequate. In our earlier efforts to determine reliability of two observers, we found that it stabilized between 65 and 75 percent agreement. Examination of the data demonstrated that the differences could be located in episodes where one observer recorded the first part of the action and the other observer the latter part. Therefore, collation of the records resulted in a more adequate record.

The field staff could take only one record each half-day. Even that was too strenuous day after day so that one record a day for a pair had to be scheduled once or twice a week.

To control bias, no pair took a second record until they had gone through a cycle of pairing and no pair took a second record on a teacher. The larger number of records were taken by the four regular staff members, thus forming six pairings. One week a Provo Staff member of equal experience substituted for one of the regular staff members. This formed six new pairings. For one record, the chief investigator substituted; therefore, eleven pairings are represented in the one hundred and five records. Appendix B contains the tables presenting the dates of record-taking, the number of the observer-pair responsible, and the order of content of the records.

ANALYSIS OF THE SPECIMEN RECORDS

The specimen records of teacher-behavior contain an uninterrupted stream of teacher and child behavior. To discover the meaning of and to organize these materials in some form so that they have comparability from one record to another is a challenge. To quantify the stream of teacher-behavior is an added problem.

The method of analysis herein presented is the culmination of four years of work with specimen records of teacher-behavior. The Provo Merit Staff[19] first faced up to the problem of finding a way to use such data to formulate a description of teaching.

As records from the classroom were read and reread it was discovered that the teacher performed certain functions for children. To illustrate: A function of support could be identified in such statements as, "I like your paper," or "Very good, Janet!" A function of threat was plainly identified with, "If you don't finish your arithmetic, you can't go to recess." A function of evaluation was recognized in, "You need a capital 'A' there," as the teacher pointed. It became clear that the concept of function could be used to analyze the stream behavior of teachers.

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[19] Provo Merit Study Report, op. cit., pp. 89-156.

FUNCTION: THE BASIS FOR ANALYSIS

The unit for analysis of our specimen records of teacher-behavior is that of function. Each function performed is counted as an act on the part of the teacher. In unitizing the material, the question is always asked, "What function did this verbal behavior and/or non-verbal behavior perform for a child, group, or class?" This method of unitizing grows out of the basic assumption of the study; namely, that the teacher cannot speak or act in the teacher-learner situation without performing a function for someone in the situation. This assumption is based upon the status (role) position of the teacher in relationship to the children. The teacher is in a position of authority sanctioned by society. The child recognizes this as he has been taught by parents and brothers and sisters that: "The teacher will tell you what to do," "When you go to school the teacher won't let you suck your thumb," "The teacher will make you finish your work."

The cultural expectations on the part of children and teacher alike are that, what the teacher says and what the teacher does counts. Children give attention to the behavior of the teacher--his explanations, directions, admonishments, praise, and acceptance. Although the relationship of each child to the teacher is unique, we can be sure that a relationship exists. Neither teacher nor child can nor do ignore one another completely.

As the specimen records of teacher-behavior were read for analysis, it soon became apparent that function was not congruent with a specific unit of verbal behavior, such as the sentence. One sentence, defined grammatically, may carry more than one function or may not carry a function except as a part of a larger context comprising several sentences.

The function is determined in relationship to the total situation of which it is a part, that is, what happened before and even after the function (act) was performed is considered in the assignment of Code-name to the function. For example, if a teacher has repeated a direction with a period of time intervening so that children have had an opportunity to carry it out, this repeated direction becomes a Reprimand. (The first time the teacher gives the direction, it is classified as a Regulation.) Another example is that of a teacher telling a child that he cannot help him now because he is busy or cannot paint because the easels are occupied; later the teacher goes to the child to give him the help or grant the permission. The remembering of the child's request on the part of the teacher performs a function designated Solicitous.

The rules and regulations for more precise unitizing in terms of functions and their definitions have been made explicit in the Manual of Directions and need not concern us at this point; however, an examination of a portion of a record with the unit numbered will illustrate the relationship of verbal unit to function. Enclosed in parentheses is the name of the function as defined in the University of Utah Revision of the Provo Code For the Analysis of Teaching.

EXAMPLE OF RECORD ANALYSIS

Record 2515

Analysis		Excerpt From Record
1 Asking for required information. (Checking-routine)	T:	1 Who's our Vice President this morning? (certain expected job done by V.P.)
2-3 Note two sentences are used that perform the functions of supporting the boys and evaluating their work. (Support-specific; Evaluate-positive)	T: (Cont.)	I enjoyed listening to the stories the boys told this morning. They told them very well.

2

4-5 One sentence indicates who is to respond and directs attention to some standard that has been developed. (Standard Set-recall; Regulate-closed)	T: (cont.)	4-5 I wonder though, John, what kind of sharing ought to take class time?
	John:	. . . . and news.
6 Questions the earlier work. (Accusative)	T:	6 Do you consider the story you told news?
	John:	No.
7 Continues to evaluate child's contribution positively but suggests that there is a question of acceptance. (Evaluate-just)	T:	7 You told it very nicely, though it might not be what is called news.
8-9 Designates who is to respond and suggests a standard. (Standard Set-recall; Regulate-closed)	T:	8-9 Fred, what about you? What kind of sharing do you think should take class time?
	Fred:	Well, something that other people like to hear about.
10 Repeats what the child says. (Content-agree)	T:	10 Something that other people like to hear about.
11 Again assesses child's work or performance. (Evaluate-positive)	T:	11 You chose something interesting and told it very well.
12-13 Presses for a specific answer and names the one who is to respond. (Structure-clos-inter.; Regulate-closed)	T:	12-13 Do you have any other reasons, Fred, for choosing to share your story?
	Fred:	. . . . . . like. . . .

14 A kind of "all is well" supportive response. (Support-stereotype) 15 Elaborates on the personal experience theme that the children have used. Several sentences required. (Inform)	T:	14 15 All right, now every day something fascinating can happen to a person unless you are very unusual. Sometimes you get up in the morning and . . . . . (Elaborates about daily experiences)
16 Initiates a specific focus to which children will give their attention. No response expected since the "focus of attention" is immediately clarified or restated without allowing time for response.	T:	16 If nothing exciting happens to you personally, where else could we get something to tell about?
Repeats focus: Give your attention to something other than a routine experience for sharing. (Structure-open-ongoing)	T:(cont.)	Boys and girls, suppose I went home and watched TV, had supper, went to bed, and nothing exciting happened, but I wanted something to share. Where could I get things to share? (Heber raises hand)
17 Granting Heber permission to respond. (Regulate-closed)	T:	17 All right, Heber.
	Heber:	Newspapers.
18 Says, "All is well." (Support-stereotype) 19 Elaborates or places newspapers in a relationship. (Clarify-content)	T:	18 19 Yes, that's one source.

20 Give your attention to some of the other related things (Structure-open-ongoing; Regulate-global)	T:	20 Anything else?
	Child:	TV.
21 Says, "All is well." (Support-stereotyp) 22 Picks up what the child has said and elaborates on it. (Clarify-content)	T:	21 22 Yes, TV. We certainly get the latest news on TV.... sometimes even before the newspaper. We sometimes hear about them while they're taking place.
23 Names the next child who has permission to speak. (Regulate-closed)	T:	23 Lee. (Calls on another child)
	Lee:	Radio.
24 Again indicates that "all is well." (Support-stereotype) 25 Repeats what the child says. (Content-agree)	T:	24 25 26 Yes, radio. Any other ideas?
26 Continues to ask children to give their attention to other sources. (Structure-open-ongoing; Regulate-global)	Child:	Books, magazines ....
27 Says, "All is well." (Support-stereotype) 28 Continues in several sentences to elaborate what the children have been saying. (Clarify-content)	T:	27 28 Yes, the things that we tell about don't always have to be things that happened yesterday or are happening now. (Elaborates on books as sources of sharing material)

The unitizing or breakdown of the forgoing three pages (3 of the 10½ pages comprising Record 2515) was given to describe the use of function as the concept for the analysis of the specimen records of teacher-behavior.

The specimen records of teacher-behavior always present new material in a new setting. Even the most stereotyped teacher-learner situation will contain something unique in the responses and reactions of the teacher and children. Such records have no limits such as those which are found in the Stanford-Binet Intelligence Test and other tests wherein a response is secured to a standardized situation. The teacher-learner situation is complex. It possesses all shades of affectivity. It fluctuates between ambiguity and tightly controlled structure. It includes teacher and children ensconsed in boredom and teacher and children working creatively. Each interaction and each record is unique.

To explore further the method of analysis, we shall identify a series of rules that are useful in the recognition of function performed by the teacher.

Function is determined by total situation. This rule was illustrated on an earlier page. A sentence or phrase cannot be read out of context and function assigned accurately. What happened before and after the response is important.

Function identified in a given unit of verbal or nonverbal behavior is directed to a particular child, group, or class and counted as an act in the quanitfication of the record. This is to say that a _function_ is counted in terms of the "to whom" it performed a function. This permits statistical analysis that has recognized meaning with function possessing a defined referent.

There are a few conditions wherein the same verbal unit constitutes one function to one individual or group and another function to another individual or group. The most common situations in which this occurs are those wherein all children are asked to do the same thing. Clean-up time preparatory to change of activity or dismissal is such a situation. Under such circumstances teachers frequently say, "I like the way Mary has cleaned her desk," or "George, Ellen, and Joe are ready." These statements support, that is, recognize and praise the individuals, and on equal level, admonish the class to hurry and do likewise, and therefore, carry two functions of _equal potency_.

The phrase _equal potency_ is a concept important to understand. Teaching, or more accurately, the teacher-learner situation, is one of great complexity. Function can be assigned with proper reliability only at the top level.

The top level might be defined as the teacher interaction in direct focus.

Another example of verbal units that carry more than one function may be found in some kinds of Structure or Clarify. The teacher says, "Larry has told us that St. Louis was once much bigger than Chicago. Why do you think that Chicago grew larger? Caroline." This verbal unit structures Caroline and, at another level, the entire group (not coded); also, it gives recognition to something Larry said earlier. Therefore, the coding is Support for Larry, Structure (the what to give attention) for Caroline and the group, and the Regulate of Caroline (the who shall respond). Three acts going to different people are coded in this one verbal unit. The recognition given Larry by the use of his name and the repeat of the information he gave is viewed as equal potency to the question that Caroline is asked to answer, and by common expectation the other members of the class are to listen to the answer. For our purposes we do not give another Regulate to the class for listening but give the Regulate for Caroline who may be said to be in focus in the interaction of teacher and children.

This discussion may be summarized in two more aids to the identification of function.

Function is identified and counted only for teacher-learner interaction that is in *direct focus*.

More than one function may be assigned a given unit of verbal and/or non-verbal behavior when it is recognized as performing a function of equal potency for two different children or groups. Under these conditions more than one child or group is in *direct focus* in the teacher-learner interaction.

The function of Structure requires a response on the part of a child, group, or class; therefore, the arbitrary rule has been made that *a function of Regulate accompany that of Structure*. The rationale for this procedure follows.

We find it necessary to designate a Regulation, that is, to indicate *who* is to do what the teacher asks, even though the *who* is not made explicit. There are two reasons for this decision. The first reason is that someone, an individual, a group, or the entire class is expected to respond to the teacher. When the teacher does not name a child or the group, it is *open* for anyone to respond. Thus, in essence, he has invited the individual or individuals *who wish to do so to respond*. Who is to respond or who the people are who have the choice of responding is inherent in the situation; therefore, known by the people involved. Some examples may serve to clarify this issue.

When the teacher says to the entire class, "Let's copy the problems from the board and work them," he is saying all of you copy and work; therefore, all are regulated and the verbal "Let's" or "Let us" carries the regulation. The remaining verbal components "copy the problems and work them" tell what is to be done, that is, designate the content to which the children are to give attention. This function in the language of the Code is known as Structure. Such phrases as, "Anything else?" "Who knows where the boat was going?" "And then what happened?" occur in an on-going situation where children are invited to respond of their own choice. Even though the verbal unit does not state plainly the who but indicates the content to which children give attention, the invitation to respond is inherent and the verbal unit actually carries the two functions of Structure and Regulate.

THE COMPLEXITY OF TEACHER FUNCTION

In our study an attempt was made to determine children's perceptions of the functions assigned to teacher-behavior.[20]

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[20] Arthur Carin, "Children's Perception of Selected Teaching Acts" (Unpublished Doctor's dissertation, University of Utah, June 1959); Burton Thompson, "Differences Between High Achievers and Low Achievers in Perception of Selected Teaching Acts" (Unpublished Master's thesis, University of Utah, August 1958); and Robert Warner, "Children's Perceptions of School From Two Viewpoints" (Unpublished Master's thesis, University of Utah, August 1959).

This was done by asking some 500 middle-class fifth grade children to respond to school story-situations presented in a form that quoted the teacher and sometimes the response of the child. The fifth grader was asked how he would feel in the situation, what he thought the teacher was doing, and, in a few situations, what he wished the teacher would do. Space does not permit the full presentation of the findings but the major findings were: (1) That children responded with great depth of feeling or emotionality to the "everyday-like" school story-situations. (2) They selected unexpected elements in the situation to which to respond. (3) In response to the total story-situation, children selected different elements or responded idiosyncratically to the same element. This is to say that more functions are actually performed by the teacher than are readily apparent, or as in our records, coded at the top level.

For example, one situation may illustrate this fact.

Story Situation:

> The fifth grade class was drawing faces for art. The teacher had shown the class how to draw a laughing boy and girl, and then the teacher asked the class to draw an unhappy lady.
>
> Teacher: Rhoda, will you model for us? Thanks. Notice how the corners of her mouth went down when she acted unhappy.
>
> Larry: The corner of her eyes went down too.
>
> Teacher: That is right. This is the way we show it

on the chalkboard. The eyebrows slant this way, the eyes are narrow and slant down at the corners.

Question: What was the teacher doing?

How do you feel when your teacher does something like this?

As expected, practically all the children saw the teacher as "telling them and showing them how." (coded Inform) However, several children in each room identified either favorably or unfavorably with the model.

"The teacher ought not to ask her to be so ugly."
"I'd be scared to get up in front."
"I want to get up in front."

Much more happens when the teacher acts in a classroom of 25 to 30 children than the so-called focused interaction, that is, the top level which is assigned a function (coded).

It is of interest to examine the brief interaction in which Tammy was involved. The situation was one in which the children were planning a booklet.

Record 1135

Teacher: Esther and Jane, would you like to write this down from the board. Put "Cover" (Writes on board) and under it, "Our Community of Crawford."

Tammy: It doesn't have to be real good. (To child writing)

Teacher: No, it's just a scrap Esther. Now suppose we talk about the first chapter. What should the first chapter be about? What should we tell about our community? (Child suggests as a title, Our School)

Teacher: Our School, or Longfellow School. (Writes on board)

Tammy: Do you want me to get it, Esther?

Teacher: She'll get it. She'll have time; it's all up here.....(etc.) ....Anything else we need to tell about our school? I can think of one.

Note that the teacher "picked-up" the first statement of Tammy, but addressed his remarks to Esther. Tammy must have received some satisfaction from the agreement that she could infer from the teacher's statement to Esther; however, no function is assigned to Tammy. In the second interaction, Tammy's offer to help is refused with "She'll get it," and Esther is encouraged with "She'll have time; it's all up here."

Proximity of the teacher to a child or group is undoubtedly a factor in the number of functions a given teacher-act actually performs. An example from Record 2938 illustrates this point.

In one classroom situation, after the teacher had explained the use of rulers, individual children were asked to suggest numbers (whole numbers and fractions) for the rest of the class to find on their own rulers. As the children were structured to find the different numbers, the teacher moved from child to child to determine the success or problems of the children. As he checked the work of individual children he made comments such as; "Good, Deborah." "Good, Beth." "That's right; that would be one half inch. One and a half inches, good." "All right, Raymond." "Make your fingers measure one and a half inches, David."

As he moved about he spoke to Sandra saying, "Good, you had that one right, Sandra." The function performed for Sandra was a positive evaluation of her academic efforts; however, Harold, sitting nearby said, "She missed a couple." The teacher's words to Sandra evoked a response from Harold, thereby performing some function for him even though not directed to him. He had heard Sandra's work evaluated positively and knew that no such attention was directed to him. What is the meaning of his remark? One might interpret his comment, "She's missed a couple," as an attempt to correct his teacher and bring his perception and act into harmony with reality as he saw it. It might be his way of telling the teacher that he (Harold) was feeling left out as recognition for good work was being distributed and that he too felt the need for it--saw positive teacher-appraisal as desirable; however, Harold is not brought into direct focus in the interaction and no function or teacher act is assigned even though we have valid evidence that he was actively responding to the teacher's action.

Whatever the exact meaning of the interaction between the teacher and Sandra in which Harold became involved, we can agree that it was complex and intricate and that it carried some feeling tone.

The Project records are filled with interactions that provide face validity that the behavior of the teacher, verbal and expressive in other ways (shake of head, fingers to lips, nods and smiles) performs functions for children. We chose to be conservative in our analysis, using the smallest inference (if any) possible. Even though we recognized and oftentimes recorded the reactions of children with whom the teacher was not directly interacting, we assigned functions, except as previously indicated, only to the acts directed to a child, group, or class that was in focus at the time. The description of teaching that we present is conservative and describes interaction at the top--most obvious--level only. The so-called "ripple effect" of teacher's actions has been previously reported. Kounin and Gump[21] studied kindergartens in twenty-six representative schools in Detroit. They were concerned with the effects of disciplinary remarks on children other than the one to whom the remark was addressed. They found that some children immediately intensified their efforts to behave as instructed, other children lost interest in what they were doing, became confused and worried; still others made no observable response.

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[21] Jacob Kounin and Paul Gump, "The Ripple Effect in Discipline," Elementary School Journal, Vol. 59 (December 1958), pp. 158-162.

A classroom of a teacher with twenty-five to thirty-odd children contains many currents and cross-currents. It is alive and active at many levels of feeling and action. To capture all of it is impossible with the use of a single technique such as our specimen records of teacher-behavior. What is recorded happened but more is present--aspirations, resentments, satisfactions, plans, anger, joy--all are there and many times triggered unknowingly by an act of a teacher which may be directed to someone else.

Our added work in obtaining the children's perceptions of the teacher-learner situation through the use of a series of paper-and-pencil tests (fifth and sixth grade) has validated the fact that the teacher-functions as assigned are recognized by children. The paper-and-pencil responses of the children have again demonstrated the great differences among children in awareness and sensitivity to what is happening in the classroom. Perhaps it is most appropriate to conclude that they see, feel, and care more than we ordinarily believe. The acts of the teacher, verbal and non-verbal, carry weight.

The analysis and assignment of function to the verbal and non-verbal acts of teachers, the quantifying and patterning of these functions constitute the description of teaching as we find it.

The evaluation of the pattern of teaching functions in reference to accepted objectives of education constitutes the image of potential of teaching of which we have become aware.

CHAPTER IV

THE UNIVERSITY OF UTAH REVISION OF THE PROVO CODE FOR THE ANALYSIS OF TEACHING

All of the teaching functions that form the Code for the Analysis of Teaching have been identified from actual records of teaching. The University Revision added several functions to the original Provo Code and reorganized the larger categories to include the two categories of Imposition of Teacher and Functions of Personal Responsiveness.

The University Revision of the Provo Code for the Analysis of Teaching contains thirty-one functions that teachers perform in the classroom in interaction with children. These thirty-one functions have subscripts that describe the manner in which the functions are performed. We have retained this rather cumbersome but very useful Code so that the description of teaching might be as complete as possible. The Outline of the Code on the following pages includes the subscripts used.

These thirty-one functions are subsumed under seven large categories. With our present limitations of space, we present only a brief discussion of the large categories and the functions placed within them.

Outline of The
UNIVERSITY OF UTAH REVISION OF THE PROVO CODE
For The Analysis of Teaching

CONTROLLING FUNCTIONS

Structure
- open
- closed
- intervention
- sequential
- orientation
- ongoing
  - public criteria

Standard Set
- recall
- teacher edict
- group developed
- universal

Regulate
- open
- closed
- global
- routine
- neutral
- sequential
- direction
  - public criteria

Judge
- direction
- punish
- turn back
- just

IMPOSITION OF TEACHER

Regulate Self

Moralize

Teacher Estimate of Need

Inform Appraisal

Inform

FACILITATING FUNCTIONS

Checking
- information
- routine
- involvement

Demonstrate

Clarify Procedure

Outline (cont.)

FUNCTIONS THAT DEVELOP CONTENT

- Resource
  - routine
  - child initiative
- Stimulate
  - one
  - three
- Structure, turn back
- Content-Agree
- Clarify
  - just
  - content
  - generalize
  - summarize
- Evaluate
  - just
  - negative
  - positive
  - with discrimination

FUNCTIONS THAT SERVE AS RESPONSE

- Meets request
  - routine
  - makes arrangements
- Clarify Personal
  - problem
  - experience
- Interprets
  - situation
  - feelings
- Acknowledges Teacher
  - Mistake

FUNCTIONS OF POSITIVE AFFECTIVITY

- Support
  - just
  - stereotype
  - specific
- Solicitous
- Encourage
- Does For Personal

FUNCTIONS OF NEGATIVE AFFECTIVITY

- Admonish
- Reprimand
  - public criteria
- Accusative
- Threat
- Negative Response Personal
  - public criteria
- Verbal Futuristic
  - public criteria
- Ignore

CONTROLLING FUNCTIONS

Within the large category of controlling functions are placed the functions of:

Structure	Standard Set
Regulate	Judge

The teacher serves as a director of learning activities. He is a manager of the classroom with prerogatives that accrue to the position. He tells children what they are to study and to do. He designates who is to do it. These activities designating the thing to which children are to give attention, and the individual or group that is to do it, are coded Structure and Regulate and placed in this overall category of controlling functions.

Another act of controlling is that in which a teacher states or asks for a recall of the proper and accepted way of doing things. This act is known as Standard Set.

All classrooms have situations of altercations. They range from one of "He won't let me play in the playhouse," or "She took my notebook," to one of conflict of interest. The latter is very often between teacher and children. For example, nine children may wish to make their history report on Henry Hudson; however, the teacher decides that only five children can study about Henry Hudson. These acts of the teacher, in cases of such altercations and conflict of interest, are coded as Judge. They are, of course, very controlling.

IMPOSITION OF THE TEACHER

The functions placed within this category are:

Regulate Self
Moralize
Teacher Estimate of Need
Inform Appraisal
Inform

The over-all category known as Imposition is comprised of those acts of the teacher that project him as a person into the situation. It was discovered, for example, that some teachers quite consistently regulated themselves to pass the paper. Other teachers had more routine ways of distributing paper and other supplies. Some teachers allowed children to go to the cupboard for materials; others always responded with "I'll get the paper," or some other self-regulation. With thirty children in the room, "Wait a minute and I'll get it for you," or "Take your seat, and I'll bring it to you," were common responses to children.

The continual regulation of self in situations similar to these described resulted in different patterns of interaction with children. The lack of routinized procedures often set up situations wherein more children were admonished or reprimand as they crowded around the teacher for the necessary materials. More directions to children also became necessary and were given.

Another way in which teachers project themselves as arbiters into situations that have not developed so that such a function might be necessary, is through the expression of a given opinion that carries some overtones of value. To illustrate: an expression of "ought to," as in "These problems will be easy for you," "It won't take you long to do this."

From our efforts to determine children's reactions to such statements, we have found that many children feel threatened by them. A few even resent them as shown in expressions such as, "He knows I can't do it." or "He wants to show me how dumb I am."

Value and opinion statements for which there are no data in the situation are coded Inform Appraisal and are considered as imposition. They are often placed into the situation before the child has had a chance to find meaning for himself within the experience.

Moralistic statements also impose--either the teacher's abstracted values or cultural cliches and truisms.

A teacher projects himself into the situation when he gives help without being asked. For example, a teacher bends over and writes a child's name on his drawing. Some children have been heard to say, "I wanted to do that." Others accept without comment or may appear pleased. Another example: a teacher notices that a child's paper is covered with erasures and, in general, appears untidy. A clean sheet is given to him and his old one is discarded. All such acts are coded as Teacher Estimate of Need. This phrase appears to describe the act performed. The "judgment" of whether or not the teacher read the cues correctly and the service rendered proved acceptable to the child is one that cannot be made from the record.

The act of giving information outside the on-goingness of the situation is coded Inform and placed in the over-all category of Imposition. More often than not, the facts given are extraneous. The information is given because the teacher believes it is needed and valuable to the child; however, the teacher is working without cues from the child and the efficacy or usefulness of the information for him depends upon his readiness for it, therefore may be viewed as imposition.

When the teacher has to respond to his own structure, the communication is coded as Inform. In this case, the topic or question is outside the knowledge and ability of the children to respond, thus may be seen as imposed.

FACILITATING FUNCTIONS

The functions placed in this category are:

Clarify Procedure
Demonstrate

Checking for
information
involvement, or
routine

This category includes those functions that are facilitating to structure; that is, such functions facilitate the movement of the content (activity) already underway. These functions are the most nearly neutral in affectivity and non-controlling (so far as teacher is concerned) of all functions performed.

One criterion can always be applied when the classification of a function is considered in this over-all category: "Is the function performed really neutral?" Are the requirements of the situation so well known by student and teacher that the teacher-act cannot be perceived as performing any other function than one of facilitating and one that carries no affectivity?

For example, with the lunch program operating in most schools, the question, "Do you have lunch today, Bob?" or "How many go to lunch today?" is Checking. Presumedly this information is secured each morning and the fact of eating the hot lunch or not eating it is not a matter of evaluation on the part of the school personnel. Each child is free to do as he and his family wish. Parenthetically we might say that this function of Checking is neutral so far as the teacher is concerned; whether or not the child feels neutral about eating or not eating is another problem. Any teacher function opens up different associations for each child. At a level which we do not code, it may be argued that Checking is not as neutral as we assert.

To continue with examples, "Who brought balloons today?" "Who thinks that his mother might take us to the dairy? I'll call her if you believe that she might drive us." These questions are information-seeking and the information is well within the personal experience of the child. In fact, he is the only one who has the information. The situation changes when the teacher says, "Do you remember what Miss Q. (the art supervisor) told us to do when this happened?" This is Structure since it asks the child to recall a specific piece of instruction.

Checking-involvement is a rhetorical question. More often than not, the teacher does not expect or wait for a response. "Wasn't that fun?" "We're finished, aren't we?" "Did you enjoy it?" Response, if any is given, may be with a chorus of "Yes."

Such checking performs the function of bringing the group together and is oftentimes seen by many of the children as an act of "asking our opinion."[22]

The function of Clarify Procedure, to be neutral and not a direction, must leave the situation relatively unchanged. To illustrate: "This is what we're going to do. Monday morning we'll look through and choose some stories we especially like to read and see if we can read them," said at the close of a reading lesson.

"Everyone can't have a turn today, but the ones who don't get a turn today can have a turn tomorrow. We'll talk about shells again tomorrow." The underlined material is Clarify Procedure.

The function of Demonstrate carries two different meanings although we have not traced them out through the use of a subscript. One meaning refers to "show-how," and the other meaning refers to the use of material. When the teacher makes use of cards, flannel boards, maps, charts, or pictures, the use and presence of such materials are coded Demonstrate. These materials usually accompany Structure; therefore, are coded but once except as the materials change (a new set of cards, a different chart) or the group with whom the teacher is working is replaced by another.

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[22] Arthur Carin, op. cit., pp. 177-180.

FUNCTIONS THAT DEVELOP CONTENT

The functions placed in this category are:

Resource	Clarify
Stimulate	Evaluate

Content development in this code is viewed as response to the data placed in the situation by the children. It is believed that children involved in content have something to say and are able to say it. They are encouraged in this by the teacher's responsiveness to them. This responsiveness is shown by the teacher's repeating what the child has said, stating it in different words, and elaborating on what has been said. It is shown in another way by the teacher requesting the personal opinion and attitude of the child. Such acts of responsiveness are coded Clarify.

Some examples of the teacher accepting and elaborating content follow:

Record 0435

(1) A child has told about China being called Cathay. Teacher replied, "Good. Very good." (Coded: Support-stereotype) "In the years Marco Polo lived, China was called Cathay." (Coded: Clarify content)

(2) Another child in talking about the wonders seen by Marco Polo mentioned the "Bells of gold..." The teacher responded, "Bells of gold....and we can probably say pretty safely that the things he saw there were new--new to the time, anyway." (Coded: Clarify-content)

Record 1527

> (3) The class had been talking about different ways to make use of stories and book reports. Diorama and pantomime had been given about which one child queried, "Is a pantomime the same as a play?" The teacher's answer was, "_In a play, you talk and in the pantomime, you don't talk. Margaret is talking about a diorama._" (Coded: _Clarify-content_.)

The responsiveness of the teacher that asks for personal opinion may be illustrated by a teacher saying, "How would you feel to be in the woods like John?" "Is there anything more that you can think of for Mary to do?" These verbal units are coded _Clarify-content_.

The teacher responds to children within the general area of content with another function, namely that of _Resource_. The teacher serves as a resource when the child asks the question or requests help with work and it is given in a qualified manner, that is, the question is answered.

Occasionally teacher may be said to perform the function of _Stimulate_. This function is defined as a suggestion on the part of teachers of three or more things that an individual or class might do; however, the initiative of doing it is left entirely to the children.

The process of evaluation is important in the development of content. It is placed in this category since it involves response to the situation, although the teacher might well be the initiator. To be coded Evaluate, the content must be made explicit instead of "That's good," or an "All right." Such statements as these are coded Support. An example of a response within content or with the content as a direct referent is, "Make a map. That's a good idea."

FUNCTIONS OF PERSONAL RESPONSE

The functions placed in this category are:

Meets Request	Interprets
Clarify Personal	Acknowledge teacher Mistake

As children go about their business of learning, even under conditions of like assignment, they have different needs and problems. The problem may be as small as that of asking for another piece of paper or as important as telling the teacher about the latest cute thing that baby brother has said. The responses to requests made by children are coded Request-routine or Request-makes arrangements depending upon the nature of the teacher's response.

Other functions that are placed in this category are the responses that clarify the problem presented by the child and those that ask for his personal experience. For example, "Have you watched the ducks at your grandfather's farm?" asks about personal experience and is coded Clarify Experience.

The statements that clarify a personal problem are often those that reflect back the meaning of the child's difficulty. "You have lost your lunch." "You are worried about your brother." These are coded Clarify-Problem.

There are times when the teacher responds to a child in a manner that expresses relationships and factors present in the situation and available to all. Upon occasion, the teacher initiates such statements. The function is designated Interpret-situation. For example:

Charles:	I don't have a saw.
Teacher:	Charles, remember this is the day that the committees are supposed to work. They have first chance at the saw, so you can't use it unless they are through with it. As soon as they are through, you can use it.

Another kind of responsiveness to the situation on a somewhat personal basis is the teacher's handling of mistakes that he makes. More often than not such mistakes are noticed and commented upon by the children. The teacher's non-defensive acceptance and recognition of the mistake is coded Acknowledge Teacher Mistake.

FUNCTIONS OF POSITIVE AFFECTIVITY

Functions placed in this category are:

Support-specific

Support-stereotype

Does For Personal

Solicitous

Encourage

All teacher acts of praise, recognition, and commendation are placed in this over-all category under the general designation of Support-specific.

There are other acts of a teacher that serve a function which carries positive affectivity. These are acts of solicitousness and of encouragement. For example, a general offer of help that leaves acceptance to the child is considered Solicitous. An indication from the teacher that work which has been started will likely turn out well is coded as Encourage.

FUNCTIONS OF NEGATIVE AFFECTIVITY

The functions included in this category are:

Admonish
Reprimand
Verbal futuristic
Negative response personal
Accusative
Threat
Ignore

This category includes those functions of reproof, admonishment, threat, and accusation.

The statements that suggest to the child before he can act to "Be sure to close the cupboard door," or "Walk quietly down the hall," are coded Admonish.

A direct request or command to change behavior is a Reprimand.

Accusations may be inferred but are often quite direct. "You had plenty of time to finish," "You didn't work hard enough," "You aren't listening."

The responses of the teacher that refuse a child his request whether the request is to sit with someone else or to be allowed to give an answer to a question are coded _Negative response personal_.

Response to a request that is a kind of "brush-off" indicating that it may be granted in the indefinite future is a _Verbal Futuristic_. To illustrate: A child suggests a game to play and receives the reply, "Some other time."

THE CODING OF SPECIMEN RECORDS OF TEACHER-BEHAVIOR

In the earlier pages of this report, we tried to demonstrate the nature of specimen records of teacher-behavior. They are "live" materials with each record possessing elements not found in any other record. These differing elements include activities, materials, and most importantly, the idiomatic expressions of human relationships rooted in time and situation.

To order these phenomena, we use the concept of _function performed_ by the teacher for a child, a group, or the entire class. These functions are performed through verbal and nonverbal behavior or a combination. The thirty-one functions are elaborately defined. In addition, a few situations occur with sufficient commonality to require common coding from record to record; therefore a few fiats are formulated to aid the Coders. To illustrate:

(1) The function performed when the teacher actually takes a vote is coded Checking.

(2) When a child interrupts or wishes to speak out of turn and the teacher replies to the effect that it is not his turn, the function performed is coded Negative Response Personal, with public criteria. (This means the child is refused and the reason for teacher refusal is within the situation with the data readily available to all the children rather than a refusal based upon adult judgment not fathomed by children.)

The Manual of Directions and Use of the University of Utah Revision of the Provo Code for the Analysis of Teaching is a separate publication.

COMPREHENSIVENESS OF RECORDS

The Code for the Analysis of Teaching has been presented. In addition, there are a few questions to be answered before the description of teaching can be presented. On what basis are specimen records made comparable from one teacher to another? What constitutes a complete or comprehensive record of a specific teacher's behavior? What confidence may be placed in the analysis of specimen records of teacher-behavior by use of the University Revision of the Provo Code? We shall discuss each question in turn.

On what basis are specimen records of teacher-behavior comparable from one teacher to another? It is possible to examine some of the situational factors; for example, the physical properties of space, equipment, light, temperature; or the instructional aspects of materials and activity used, children writing or not writing, teacher reading to children, children taking an examination, children building, clay modeling, painting. Of course the list is almost endless and when the teacher-learner situation is viewed in this way, only superficial comparability is present. However, when the teacher-learner situation is viewed from the standpoint of interaction, we have found that regardless of the situation, the teacher can and does perform at any given moment in one of several ways.

He can act to control, command, and direct the children. He can impose his personal values on them.

He can ignore, threaten, scold, admonish, punish, and offer other indices of disapproval.

He can act in a relatively neutral manner to facilitate the on-goingness of the situation; for example, checking to see how many are going to the movie, or telling the class that the nurse will be in the building at a certain time.

He can act within the framework of the problem or content under consideration to clarify, elaborate, evaluate, and serve as resource in answer to children's questions.

He can respond in a highly personal manner to children on matters other than those centered in the content or problem with which the class is working.

He can offer approval, praise, commendation, acceptance, and encouragement.

The more these functions are examined in the interactive situations, the more readily they are identified in all human interaction. There are, however, some differences between interactions in the superior-subordinate relationship and those of the equalitarian groups reported by Bales.[23] For example, if the superior wishes to direct and structure the situation, he has the power to do it.

These functions (acts), as defined in this study, will hold true for any superior-subordinate relationship such as parent-child, or supervisor-employee, as well as the teacher-child interaction.

The pattern of relationships that the superior (teacher, parent, supervisor) establishes grows out of his own personal needs, his beliefs, and his expectations of himself and those he believes others have of him. This pattern of relationships becomes his way of coping with his position of teacher, parent, or supervisor. Although the specific situation and people in the situation make a difference, we believe the pattern of behavior for each individual to be well enough established to conclude that a reasonable length of observation will disclose that pattern of functions (acts) usually followed by the superior in the superior-subordinate relationship.

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[23] Robert F. Bales, Interaction Process Analysis (Cambridge, Mass.: Addison-Wesley Press, Inc., 1951).

For our purposes, we have defined a common unit of time (30 minutes) as a reasonable length of observation in the teacher-learner situation. For our Pilot Study of six judged-good Utah teachers, we have 120 minutes of observation time on each teacher. In our study of thirty-five West Coast teachers, we have 90 minutes of observation time for each teacher.

As reported elsewhere, the conditions of taking the records were controlled and to the degree possible were the same from teacher to teacher.

What constitutes a complete record of teacher-behavior? A research project will have to address itself directly to this question before it can be answered with statistical confidence. Since our purpose was to describe and assess the quality of teaching, we chose to sample the teaching of a larger number of teachers rather than to work on the problem of completeness of record for a few teachers.

The four records taken on each of the six teachers of the Pilot Study were taken at different times during the day: at the opening of school in the morning and afternoon, the middle of the morning, and the middle of the afternoon. There were no differences in teacher pattern of acts among the four observations for any of the teachers, (Appendix A); therefore, we decided to ask the teachers of the larger study to work with different content in each of the three observations. This we hoped would provide us with a greater range of individual teacher-behavior. With the methods we used to secure the records and the number of records we have, we consider that we do have a representative sampling of teacher-behavior in elementary schools. We present the materials we have on an individual teacher as that of 90 minutes of observation. We do not claim the pattern of functions (acts) presented for an individual teacher is necessarily sufficient for a complete individual evaluation.

RELIABILITY OF CODING

The procedure for coding the records was set up to provide us with the most accurate and insightful description of teaching of which we were capable. Previous experience had demonstrated to us the difficulty inherent in the analysis and quantification of such records. The requirements for coding are severe. Chief among them is that of objectivity which requires the coder to divorce himself from personal value judgments of the teaching and from personal identification with the teacher. He cannot code by the intent of the teacher. The assignment of function is in terms of the recipient of the act. The frame of reference of the Code and the Code definitions must be accepted to code with accuracy.

With the use of the subscripts that describe the thirty-one functions performed by teachers in the classroom, there are eighty possible designations for the function performed. Added to this was the attempt to trace out the teacher action as directed strictly to an individual, to a group, or to a class.

The 105 records were coded by the four members of the research staff who worked in pairs, each coding the record individually, then coming together with a checker to work through the disagreements in their coding. This meant that three people read the record and accepted the coding. With one exception, no teacher had a record coded until a record from all others had been coded. Only a few teachers had a second record coded by the same team.

The records with specific content such as reading or social studies were taken as a given cycle of coding. The date of final coding and the teams responsible are presented in Table CI. (Appendix C)*

The 105 records totaled 1125½ pages of tyewritten material. The individual records ranged from seven to 15½ pages with a median of 10½ pages per record. Twenty per cent of the pages were recoded to provide the index of percentage of agreement. The pages were selected by formula so that each record contributed according to its total number of pages. The recoding was done by the original pair and the same process of working through a checker continued.

The recoding does not represent precisely the same situation because the pages were taken at random, thus appeared out of context; however, the full typed record was available for reference. A complete cycle of records were coded before the recoding on the previous cycle was done. The percentage of agreement between the two codings is based on an item by item analysis.

On the 1125½ pages, 234 were recoded with a percentage-agreement of 81.4. When the data are corrected for agreement within categories, the percentage-agreement becomes 83.6. The over-all percentage-agreement is presented in Table V.

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*All of the elaborated Tables of supporting data for this chapter appear in Appendix C.

An examination of pattern of error showed that omissions accounted for 42.2 per cent of them. A breakdown of these data are presented in Table CIII. (Appendix C)

TABLE V

OVER-ALL PERCENTAGE-AGREEMENT ON RECODING

Total Acts	Total Acts Recoded	Total Acts Disagree	Total Acts Agree	Per Cent of Agreement
26,385	5467	1017	4450	81.4
Corrected for within category agreement	5467	894	4573	83.6

There are two sources of omission. One source is that of overlooking or skipping a function (act) that is clearly present. For example, a teacher may call on a child and the name not be heard by the observers but the act of regulate is recorded by the observers using an agreed-upon symbol of a straight line followed by a period. Under the stress of coding, these straight lines (symbolizing a regulation) may be overlooked.

Again a teacher says, "That's fine," "All right," (coded Support-stereotype) in an accepting manner and it is recorded (by the observers) but overlooked by the coders.

The second source of error is more difficult to correct and more genuinely represents the kinds of errors that are of major concern in the use of content analysis. Although the categories are relatively independent by definition, an interaction or series of exchanges between teacher and learner are a part of a whole. The way the coder views the situation makes a difference in his assignment of function. For example, if he views the verbal unit, "Please do not ask any more questions" as a Reprimand the use of the conventional "please" will carry no act of Support-stereotype; whereas, if it is coded Regulate-closed-direction, the"please"is assigned the act of Support stereotype, since by definition the use of the conventions of courtesy are coded Support-stereotype except when used in acts of Negative Affectivity. A series or cluster of errors often results from this difference in assessment of the situation from one coding to another. Of course, this is the crux of reliability of coding.

The records were grouped and statistical analysis made on the basis of their content--reading, activity, social studies, arithmetic, kindergarten, and three others not so classified. The data for these groups of records are presented in Table VI. These data show that some confidence may be placed in a discussion of findings for the records grouped according to content.

TABLE VI

PERCENTAGE-AGREEMENT ON RECODING OF RECORDS CLASSIFIED ACCORDING TO CONTENT

Content Classification	Number of Records	Percentage-Agreement On Recoding
Reading	33	82.1
Activity	24	80.0
Social Studies	24	82.0
Arithmetic	15	82.4
Kindergarten	6	75.6
Other	3	84.8
Total	105	81.4

We can now turn to the percentage of agreement found among the large categories. As a basis for the discussion, it is instructive to note the distribution of the number of acts within each category presented in Table VII.

TABLE VII

DISTRIBUTION OF TOTAL NUMBER OF TEACHING ACTS AMONG THE SEVEN CATEGORIES FOR 90 MINUTES OBSERVATION FOR 35 TEACHERS

	Controlling	Imposition	Facilitating	Content	Response	Positive	Negative	Total Items
Total Acts	12,402	738	1918	4131	1289	3243	2664	26,385
Mean % of Acts	47	3	7	16	5	12	10	100
Mean Acts per Teacher	354.3	21.1	54.8	118.0	36.8	92.7	76.1	753.9

The four categories of Controlling, Content Development, Positive Affectivity, and Negative Affectivity constitute eighty-five per cent of the 26,385 acts coded. The percentage of agreement for these categories as presented in Table VIII may be considered within the range of acceptability.

TABLE VIII

PERCENTAGE-AGREEMENT ON RECODING ACCORDING TO CATEGORY

Category	Total Items Recoded	Inter- and Intra-Category Agreements	Inter-Category Disagreements and Omissions	Percentage of Agreement
Controlling	2527	2219	308	87.8
Imposition	174	109	65	62.6
Facilitating	414	298	116	71.9
Content Development	886	751	135	84.7
Response	277	208	69	75.1
Positive Affectivity	612	519	93	84.8
Negative Affectivity	577	469	108	81.2
Total	5467	4573	894	83.6

The percentage of agreement on the recoding for each of the thirty-five teachers is presented in Appendix C. The median percentage of agreement for the 105 records is 82.8. Seventy-one per cent of the individual records ranged in percentage of agreement from 78 to 96. It is of interest to note the extremes of the distribution of individual records. There are nine records with a percentage of agreement ranging from 90.1 to 96.2. There are six of the 105 records with a percentage of agreement on recoding ranging from 64.4 to 66.6.

The consistency with which the records of individual teachers were recoded is one way of relating the unique nature of the material to the coding process. For twenty-two teachers, the range in percentage of agreement among the three records was ten or less. These data suggest that an important relationship exists between what might be termed teacher-style and the coding of the records. However, for the other fourteen teachers the percentage of agreement among the three records for a teacher ranges from 12 to 22 per cent.

We can now conclude our presentation of the reliability of the coding process by stating that further analysis and work with the Code is underway and will be presented in the Manual of Directions.

The report thus far has presented the teachers in the study, the nature of the data, and the procedures used in the securing and processing of the data. The next chapter presents the description of teaching as it is found and as it might become.

CHAPTER V

THE DESCRIPTION OF TEACHING

We shall describe teaching within the framework of functions teachers perform in the classroom. In addition we shall examine the consequences of those functions in terms of our accepted values (objectives) of education. The values we hold about the nature of man, the way he learns and develops, and the potential of which we believe him capable, together operate to condition our views of what the classroom might become.

The important elements of nurture for child growth provided by the school are found in the quality of interaction in the classroom. The most pervasive and insistent of these elements is the control exercised by the teacher.

THE CONTROL OF THE TEACHER

THE CONTROL OF THE TEACHER

By virtue of being the adult in the situation as well as occupying a status position with vested authority from society, the teacher is the director, the manager, the "boss" of the classroom. How he uses that authority depends basically on his own conception of his task as teacher. His conception of his role as teacher is an outgrowth of his own experience of growing up; of his concept of the way children grow, acquire the skills and internalize the values of the culture; and, of his image of what children may become. What is the concept of teacher-role evidenced in the behavior of teachers in interaction with children in the classroom? The evidence is clear that most teachers accept the role of teacher as that of director and judge. They control the classroom--at least, perform the functions designed to effect control. The median of controlling acts of total acts for all 129 thirty-minute records was forty-six per cent.* For forty-four records the range was from fifty to seventy per cent. Table IX presents these data.

Twenty-eight (68 per cent) of the forty-one teachers had thirty-minute periods with fifty per cent or more of their acts controlling. About half of the twenty-eight teachers had more than one record and three of the teachers had all their records within controlling acts of fifty or more per cent

their records within controlling acts of fifty or more per cent

of the total acts.

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*This section includes the twenty-four records from the Pilot Study (Appendix A) which makes 129 thirty-minute records available for the description.

TABLE IX

DISTRIBUTION OF RECORDS WITH FIFTY PER CENT OR MORE OF TOTAL ACTS IN CONTROLLING

60% - 70%				55% - 59%				50% - 54%			
Record Number	Total Acts	Controlling No.	Controlling %	Record Number	Total Acts	Controlling No.	Controlling %	Record Number	Total Acts	Controlling No.	Controlling %
1939	342	235	70	B-2	255	151	59	0927	249	136	54
1915	315	218	69	1829	276	161	58	0538	317	171	54
1927	288	189	65	1612	315	182	58	0317	290	155	53
0328	262	169	64	0938	327	186	57	0617	212	113	53
2215	286	179	63	2417	224	128	57	0227	316	168	53
2828	305	188	62	3437	281	157	56	1418	198	106	53
1725	282	174	61	B-3	185	104	56	2425	229	122	53
0428	250	151	60	0238	333	187	56	2630	232	124	53
0837	293	175	60	3217	311	171	55	B-1	221	116	52
1218	369	223	60	3228	282	156	55	2139	226	117	52
				1717	358	197	55	3027	343	177	52
				3415	274	152	55	3328	272	142	52
				1837	368	203	55	3535	236	123	52
				1027	308	169	55	2817	288	148	51
				D-1	141	78	55	3239	261	132	50
								2125	321	159	50
								0629	221	111	50
								0120	191	95	50
								C-1	230	115	50

The thirty-nine records of the thirty teachers with controlling acts below fifty per cent, but over forty per cent, of the total number of acts are presented in Table X. Nine of the teachers had two records in this grouping.

TABLE X

DISTRIBUTION OF RECORDS WITH FORTY-ONE TO FORTY-NINE PER CENT OF TOTAL ACTS IN CONTROLLING

41% - 44%				45% - 49%			
Record Number	Total Acts	Controlling No.	%	Record Number	Total Acts	Controlling No.	%
1815	263	115	44	0335	232	114	49
0130	181	80	44	0435	175	86	49
0727	324	139	43	0915	323	159	49
2620	211	91	43	2117	390	190	49
2938	278	121	43	2738	300	148	49
F-1	159	68	43	0417	201	96	48
B-4	187	78	42	3317	242	116	48
0815	178	76	42	1127	282	135	48
1227	224	91	42	0638	232	108	47
2017	260	110	42	1625	204	97	47
1535	191	81	42	2717	285	133	47
2229	185	75	41	3015	321	152	47
1135	242	100	41	0735	232	109	47
C-2	170	70	41	2327	341	161	47
1739	208	86	41	3429	237	109	46
				0824	255	117	46
				3117	246	112	46
				2035	316	114	46
				1315	220	101	46
				2537	202	93	46
				1427	190	86	45
				2315	180	80	45
				2927	314	143	45
				1327	207	94	45

There are eighty-three (64 per cent) of the 129 records wherein the teacher's acts of controlling exceed forty per cent of the total number of teaching acts in the thirty-minute period.

There are only seventeen (13 per cent) of the 129 records with the teacher acts of controlling less than thirty per cent of the total acts. Only two teachers, E and A, have controlling acts less than forty per cent of the total acts for all their records. The data for the records with forty per cent of total acts in controlling are presented in Table XI.

Teachers are controlling and directive in their relationships with children. Of the 30,108 teaching functions (acts) coded in the 129 records, 13,809 (45.8 per cent) of the total number were controlling.* Although there is variability among teachers and within the records of individual teachers, the major pattern is that of control. This finding of control and dominance on the part of the teachers appears somewhat contrary to the public's view of the school as a place where children are doing very much as they please.

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*For the thirty-five teachers of the West Coast with 26,385 total acts, 12,402 or forty-seven per cent were controlling. For the six Utah teachers (Pilot Study) with 3723 total acts, 1407 or 37.8 per cent were controlling.

TABLE XI

DISTRIBUTION OF RECORDS WITH FORTY PER CENT OR LESS OF TOTAL ACTS IN CONTROLLING

35% - 40%				30% - 34%				20% - 29%				Below 20%			
Record Number	Total Acts	Controlling No.	Controlling %	Record Number	Total Acts	Controlling No.	Controlling %	Record Number	Total Acts	Controlling No.	Controlling %	Record Number	Total Acts	Controlling No.	Controlling %
2729	338	134	40	D-4	127	43	34	D-4	179	52	29	F-4	97	18	19
0719	224	89	40	E-3	114	39	34	C-4	130	36	28	1239	247	34	14
1518	137	55	40	2237	274	89	32	2029	271	77	28	A-3	135	16	12
0515	218	85	39	3339	222	71	32	F-3	147	41	28				
3517	195	76	39	1013	188	60	32	0110	173	46	27				
3125	208	81	39	0527	168	54	32	A-1	142	34	27				
E-1	49	19	39	2515	227	73	32	2339	260	69	26				
E-2	209	79	38	3039	227	70	31	2919	220	54	25				
1039	243	93	38					1339	195	50	25				
2529	235	88	37					E-4	53	12	23				
0219	261	97	37					A-4	171	38	22				
3139	211	78	37					A-2	148	33	22				
1637	235	84	36					2839	154	31	20				
1527	218	78	36					2439	208	41	20				
D-3	194	69	36												
1439	147	51	35												
3529	127	44	35												
2610	221	77	35												
1118	210	73	35												
C-3	165	57	35												
F-2	116	41	35												

THE CHARACTERISTICS OF CONTROLLING FUNCTIONS

Controlling functions are exercised by teachers in this study mainly for the purpose of telling the children exactly "the what" to which they are to give attention. The questions children answer, the pages they read, the problems they work, the writing they do, are all carefully prescribed. Not only is the content named for the children, but they are held to a specific answer-order of procedure and process of working. In addition to the content or "the what" to which the child is required to give attention, the teacher designates the child who is to answer or to do whatever is commanded. These functions of structure and regulate constitute eighty-seven per cent of all controlling functions recorded. Havighurst and Newgarten have commented upon the teacher in this role of "mediator of learning."

> It is in the role of mediator of learning that the teacher tends to be most sure of himself. What is to be taught, and how it is to be taught are the teacher's main stock in trade . . . . It is also within this role, as contrasted with others, that the teacher's behavior is the most highly ritualized and formalized.[24]

The present cultural concept of the teacher's job as that of purveyor of information and checker of the facts children have acquired, actually fosters classroom interaction that *places limits on the intellectual activity of children*. This is an outcome of the excessive and nondiscriminating control exercised by teachers. This control is manifest, not only in "the what" to which children give attention and "the who" to respond, but in the teacher's power to approve or disapprove the response of children. The teacher alone serves as judge of the correctness of the response of children. Such control is pervasive and continuous from kindergarten through the graduate school. The teacher's lesson plan and the teacher's choice of answer takes precedence over the actual intellectual exploration of children. The teacher's plan is the one that is followed and, for the most part, no cues are picked up from the responses of the children. This fact is unfortunate. The responses of children disclose (for those who will hear) the information they already have and that which they are seeking; furthermore, children's responses provide continual evidence of the variety of ways their minds are working. Any appraisal of quality of the educational process must raise the questions: Are the mental explorations of the children facilitated or hindered by the instructional procedures manifest in teacher interaction with children? Are the children in situations where a variety of intellectual activities are invited?

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[24] Robert Havighurst and Bernice Newgarten, Society and Education (Boston: Allyn and Bacon, 1957). p. 390.

An examination of representative materials from the records may prove useful. Each illustration is given with a statement of the setting and analytical comments. These selections illustrate the chief characteristic of the control exercised by teachers; namely, that over the intellectual explorations of children.

A. Setting:

A primary teacher with a small reading group was discussing a story about a baby elephant.

T:	How old is she?
Ch:	Twelve months.
Ch:	One year.
T:	Twelve months. One year. Good for you.
Ben:	Mrs. X . . . .?
T:	Yes! That elephant is on the other page, but we are on this page. Read this page through and find out what Baby Elephant did when she got to the monkey cage.

Comment: -

Acceptance of the children was shown in the teacher's repetition of what was said and in the permission given Ben to speak. There was non-acceptance of his exploration of the book the group was using. He was directed back to the proper page.

- -

B. Setting:

An intermediate grade was identifying the things in pictures that started with different letters.

T:	What about the H's?
Ch:	There are four H's.

T: There are several. Let's don't repeat any and listen to what everyone else says.

Ch: (Says one)

T: Yes, that's one. What's another?

Ch: Honey

T: What is the honey in?

Ch: A container.

T: Well, that's a fancy word. I'd call it something real easy like a pail or a pan. I'd call it a pan.

Comment: -

The unexpected response from the children is frequently non-accepted, yet the unexpected, the unusual, is more often than not an aspect of creativity. In this case the child was using an abstraction of a relatively high order of generalization.

- -

C. Setting:

A primary teacher asked the children to give so-called story problems using the number eight. The teacher gave them a model, and at the same time drew a picture on the board of a house with an upstairs and a downstairs.

T: There were eight in the family--a father, mother, and six children. From this family of eight, three went to town. How many were left at home?

Ch: Five.

T: All right, could you show it on the board _____? Eight take away three.

(Child comes up)

T: All right, maybe you can put it on this side over here. (Child does)

T: My, it looks like a three. Could you make the five look more like a five?
(Child writes it over)

T: I think if you put it just a little higher.
(Child does so)

T: I think that is much better.

Comment: -

The quick response of the children to the problem was correct. The time of the entire class was consumed with one child writing the numbers in formalized manner on the board in the exact place designated by the teacher.

- -

(Two other children followed the same kind of problem as teacher had given and had children in their story leave home. Each child had to write out his problem on the board.)

T: You don't always have to go away from home. You can make up addition and subtraction problems.

Leslie: There are six children in this family. One is outdoors raking the lawn, one is weeding the flower beds, one is picking rocks out of the border, and one is in a tree watching them. How many are in the house?

Dick: Two.

T: Two. That's right. That's a real good problem, but let's limit it to two parts.

(Hands)

T: All right. Sally. (Sally starts)

T: Use all eight of them.

Comment: -

The control of the teacher was on the precise procedure the children were to follow in making this story problem. This control extended to the numbers to use. For example, children were asked to return to number eight and to keep to two numbers of the one-step problem.

- -

D. Setting:

A primary grade teacher who was showing the class some mounted pictures asked each child in turn to comment about one.

T: (Holds another picture) Can you tell us about this one Althea?

Althea: (Replies)

T: Where is he?

Althea: . . . . drugstore . . . . . candy . . .

T: How much money does he have to spend?

Althea: . . . penny . .

T: Just a penny. What will he have to decide?

Althea: Where to get more money.

T: Would he have to decide where he could get more money Althea?

Althea: No.

T: What would he need to do?

Althea: (Replies)

T: Yes, he would have to look at the prices and see what he could buy for his penny. Now will you tell us the story?

Comment: -

This simple episode illustrates the non-discriminating control of content teachers oftentimes exert. Could not the teacher's purpose of promoting language expression be met by a teacher's response to the child's "where to get more money" instead of the more stereotyped formula followed.

- -

E. Setting:

An intermediate grade was planning a mural based on their work in social studies. The teacher structured the class with:

T: We're going to begin our mural soon. It's going to be on California Indians. Let's keep in mind that these are early California Indians. What are some of the things to list that we are going to have to remember about the Indians? (Teacher writes "California Indians" on the board--children respond about houses made of grass and houses made of trees.)

T: So on our mural we want to show houses. Would you put all the houses in one spot?

Comment: -

"Yes" "No" question which kept the content with the teacher who then had to restructure--ask a new question to keep things going.

- -

Ch: No.

T: What would you do, Glenn?

Comment: -

Child who was to answer named or regulated to do so--no one else expected to respond.

- -

T: All right. We would not find all types in one place so we have to put some houses in different places on the paper. All right, we have houses. What else should we show? (Hands) Eddie.

Comment: -

Child replied and teacher repeated the answer he structured for. He restructured in an on-going manner with "What else should we show?" and made the decision to allow Eddie to answer.

- -

Eddie: (Talks about figures)

T: All right, figures. Would we want stiff figures?

Comment: -

Acceptance of answer--again a question that controlled the response with the "Yes" "No". Also, a standard for the drawing of the mural was implied.

- -

Ch: No.

T: What kind?

Ch: Action.

T: Action . . . . All right, we are going to have figures and what else on the mural? (Hands) Barbara.

Comment: -

Note that the first "Yes" "No" question left it necessary for the teacher to restructure by asking another question.

A question such as "What shall we have the people doing?" would have invited the children to use more of their information about the Indians and kept the discussion problem-centered instead of bringing in the drawing standard or value of stiffness versus action.

- -

Barbara: (Replies by talking about boats)

T: Some boats. All right. Did they have the same type of canoes as we think of canoes now? Rebecca.

Rebecca: No.

T: Can you tell us briefly what they were like?

Comment: -

Teacher continued "Yes" "No" question and retained control. Also, the child who was to respond was named, and it was not the child who had the idea.

- -

Rebecca: (Explains difference)

T: All right, we want canoes (Writes on board). What do we want with the canoes? What do we have to have or ought to have?

Ch: Figures.

T: Some figures but what do we have to have?

Comment: -

Teacher repeated question for a reply that he wanted.

- -

Ch: (Replies)

T: Yes. We could have some Indians.

Ch: They could be trading.

T: Or they could be going trading.

Ch: . . . fishing . . .

T: Or they could be going fishing. They ate fish a lot. That is when there were fish. Anything else you think of?

Comment: -

Did the addition of "Or they could be going fishing" say to the children "This is what I want"? There was no exploration of what the children had in mind.

- -

Ch: . . . teaching boys how to be men . . .

T: All right, showing the tests you have to go through to be men. Don't you think we could remember that when we put our figures on? What else, Earl?

Earl: (Remarks not heard)

T: All right. What else, quickly.

Ch: (Talks about hunting grounds)

T: (Repeats statement) Rebecca.

Rebecca: (Continues about hunting)

T: Yes, that would come in. That will be fine. That would give us some figure action. Did you want to add something _______?

Comment: -

Teacher's concern with the form of the mural was apparent in the continued statement about figures. If the purpose of making the mural was that of organizing and conceptualizing (in a form other than words) the information the children had about early California Indians, the kinds of questions asked and the implied art standards appeared to contribute little toward the objective.

- -

(Discussion about food-getting)

Victor: Could show sweat houses . . .?

T: Those are things we can put in.

Ch: Trees.

T: All right, we will want some trees.

Ch: Could show some burning houses . . .

T: Why did they burn the houses?

Ch: When they were going to have new house . . . burned old one . . . .

T: Well, yes. We'll see if we can get that in if we have room. Good idea, though.

Comment: -

Teacher appeared to announce his decision not to include "burning houses" even though he evaluated the idea positively. Was this a decision children might have made when in the actual process of blocking out the mural?

- -

Ch: We could show different games.

T: Yes, what could we call all these things? Could you group them all under one thing?

Ch: (Remarks about figures)

T: Yes, but what?

Ch: (Remarks about activity)

T: Activity but I was thinking of family life.

Comment:

It appears that the teacher was maintaining an a priori personal decision. Was "family life" to be the title of the mural? Wasn't the suggestion of activity as descriptive and, perhaps, even more appropriate since the discussion had concerned activities of the Indians in all aspects of their lives?

(Discussion of committees was introduced and carried on for a time.)

T: Incidentally, did the California Indians have a pretty easy life?

Arthur: No.

T: Yes, they did, Arthur. Don't you remember? Who can tell me about it? (Hands up) Eddie.

Comment:

Another "Yes" No" question--a quick denial to Arthur without asking for an explanation of his meaning. The descriptive words "easy" and "hard" seldom have the same meaning to different individuals. Another child was regulated to answer the question.

Eddie: (Tells about Indians not having to work)

T: Why didn't they have to work as hard as other Indians? Larry.

Larry: They didn't have to fight.

T: They were peaceful Indians. But one fact. One word will answer it. Robert.

Comment:

The problem became a guessing game oriented to what the teacher had in mind.

Robert: (Tells about freedom)

T: That's right. They had freedom. Rebecca.

Rebecca: Lots of food.

T: Yes, they had lots of food. Janice.

Janice: (Says more about food)

T: All right, but why did they have lots of food?

Ch: They had all the food they wanted.

T: All right, why?

Ch: (Comments)

T: All right, but there is still one thing I wanted you to say.

Ch: (Tries to tell about raising crops) I can't think of the word.

T: Fertile.

Ch: Yes.

T: I'm going to tell you. I wanted you to think this out. One reason was because of the climate. Things grew the year around. The winters were not severe and there was always plenty of food.

Comment:

The intent of the teacher to have the children "think this out" was defeated because of the orientation of the original question to what *he had in mind* instead of to the problem.

With the controls extended by the type of question asked and the regulation of exactly who was to reply, there was minimum involvement of children. The answer was to the teacher. The questions themselves did not evoke discussion and participation. No problems were actually raised. The mental processes required were almost exclusively those of simple memory and recall. A minimum of opportunity to make use of relationships was offered. The one comparison pertained to the differences in the canoes of the Indians and those used today. No child was given an opportunity to defend or elaborate his response. There were no questions raised or ideas offered that required further exploration.

This illustration from social studies is representative of teaching as we have found it. The class was attentive. The teacher was accepting of the children. There were few reprimands or admonishments. They were planning an activity, i.e., the mural. Children and teacher were working together without conflict. Our question is, "Was this enough?" The opportunities for greater intellectual activity were inherent in the situation but were not utilized. There was no problem-solving beyond the mere sorting out of the right answers.

More needs to be said about the force of tradition and the concepts held by the public regarding content and drill.

The barrage of criticism of the last few years may be responsible for the use of relatively sterile content with excessive and non-discriminating drill.

The teaching task involves continuous decision-making. Some questions that teachers need to answer if they value the participation and commitment to learning on the part of children are:

> What is the meaning of what the child has said? What does he appear to know?
>
> If his response is followed up and explored, will it promote his mental activity and thus increase his intellectual interest in the area of consideration?
>
> Does it provide opportunity for further language expression with its accompaniment of idea-organization?
>
> Will the response by the teacher help him to continue to work in this field or will he be embarrassed and discouraged or become fearful about trying again?

Teachers answer such questions consciously or unconsciously. They are raised in a context where many decisions are made with split-second timing. Most teachers sincerely believe that the "right" answer they hold out for is important. The viewpoint we take is that these important decisions, for the most part, are made non-discriminately. It is this non-discriminating nature of response on the part of teachers that is the point at issue. For example: Do children need to be held to the exact manner of verbalization often required?

Some examples may demonstrate the manner in which the

DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
Office of Education
Cooperative Research Branch

Project Description

Title: Development of Means for the Assessment of the Quality of Teaching in the Elementary Schools (USOE/353)

Investigator: Marie M. Hughes

Institution: University of Utah, Salt Lake City, Utah

Starting Date: April 1958

Closing Date: June 1959

PROBLEM

The purpose of this study ~~is~~ was to define and describe good teaching and the process by which it can be determined with reliability.

MAJOR OBJECTIVES were

were 1. To determine what differences in teaching profiles or patterns ~~may be~~ formed among elementary teachers who ~~are~~ were judged to be good teachers;

2. To identify teaching acts that are were more characteristic of good teachers than less adequate teachers, that tend to ameliorate the power component of the teacher, that result in positive affectivity rather than negative, and that are were most directly related to the promotion of democratic citizenship in the world today; and

3. To validate a description of good teaching and to build an instrument for the analysis of the teaching act. 116

DESIGN AND PROCEDURES

The first phase of the study will be case studies of four teachers judged superior. Paired observers will gather the data on each teacher through four 30-minute observations. Standardized achievement and intelligence test data on the students in the four classes will be taken from school records. Several standardized instruments will be administered to the children to determine their perception of the situation. Phase two of the study will involve a sample of approximately 50 teachers judged to be good teachers. The data-gathering procedures will be essentially the same as those used in the first phase. The judgment of superior teaching in each instance will be based on the observations of some group that has close contact in a supervisory sense with the teacher.

content selected and maintained in classroom after classroom may be less than we would have it.

A. Setting:

A primary teacher was showing mounted pictures to children who then told a story about them. Ellen has been asked to talk about the picture of a woman shopping in the grocery store.

Ellen: (Tells something about a list)

T: Look closer. Does she have a list? What do you think this lady is doing? Does it look as if she is about finished shopping?

Chn: No.

T: Let's let Ellen tell it. Does it look as if she is finished shopping, Ellen?

Ellen: (No reply)

T: When you go to the store, Ellen, what do you do when you are finished?

Ellen: Go out.

T: Can you give me a sentence?

(Child does)

T: What do we call all of the things we buy in a market?

Ellen: Produce.

T: No.

Another child: Food.

T: Food or ....?

Another child: Vegetables.

T: She doesn't just have vegetables in her basket. All of these things are called groceries. (Begins to write story, "The lady . . ")

T: Ellen, what is this word? (Pointing to "lady")

Ellen: Lady.

T: (Writes "is going") What is it if I cover the ending? (Covers "ing") What does that spell?

Ch: Go.

T: Go. If I put "ing" on it, what is it, Ruth? If g-o spells go....add "ing" on it, what does it spell?

Ruth: Going.

T: Going. (Continues to write "to pay for the groceries")

Ellen: Going.

T: The word is "groceries."

Comment: -

It is of interest to trace out the response of the children to the introduction of the abstraction "groceries". The following episode is taken from the same record and occurred sometime later.

- -

T: What do you see right here (Pointing to "grocery cart")? What is this Lila?

Lila: (No response)

T: What is it Mike?

Mike: Basket.

T: Basket. Have you ever seen one of these, Lila?

Lila: (Replies)

T: Yes. What else do you see here?

Lila: Vegetables.

T: What else?

Lila: (No response)

T: What is this? (Pointing to baby)

Lila: Baby.

T: What is the baby doing? Look carefully at the picture. Does the baby belong in the cart of vegetables and food?

Lila: (No response)

T: Do you think he does, Kathleen?

Kathleen: (No response)

T: Have you ever been to a market and seen a baby riding in a basket?

Chn: Yes.

Comment:

Some response was obtained from children when the question was personalized.

T: Yes. This is made especially for the baby to sit in so the mother does not need to carry the baby while shopping. All right, Lila, tell us the story.

Lila: (Uses unsatisfactory word for grocery cart)

T: No. In the what? What do we call it? This is the basket. (Points) A basket on wheels is a what?

Lila: (No response)

T: A cart. What are the things we put in the cart?

Chn: Vegetables. Food.

T: Food. What else do you call them?

Ch: Vegetables.

T: Groceries. So what kind of a cart is the baby sitting in?

(No response)

T: Kathleen, I'd like you to look up here. (Teacher begins to write story, "The baby is sitting in the ......)

T: What is the word, Lila?

Lila: The.

T: (Finishes writing "grocery cart")
Will you read your story for us please.

Lila: "The baby is sitting in the . . .(pause) . .

T: What is this word? All kinds of foods.

Ch: Grocery.

T: Grocery cart. Read it again, Lila.

Lila: (Reads - teacher prompts on "grocery cart")

T: Those are all very good stories. Now when you go back to your seat I'd like you to draw a picture telling about your story. Tomorrow we will put the picture and the story together and see if you can read it as well then.

Comment: -

The evidence appears clear that to the children the word 'grocery' and 'groceries' had no meaning. The pattern throughout was that of teacher to child, child to teacher, and teacher to child. At no time were the children sufficiently involved to carry on from their personal experience. How well will they read "their" stories the next time they are asked to do so?

- -

B. Setting:

Children in a primary room were working on different activities; among them that of dictating stories to the teacher.

Marge: (Begins to dictate story)

T: (Writes story as child dictates) "A little girl started a forest fire. She is on fire. She screams."

T: She screamed? I would too, wouldn't you? (Continues to write)

Marge: "The fire" (Stumbles on "engine" - teacher writes)

T: (Guessing) Engine?

Marge: (As teacher writes) The fire engine came and save. . .

T: Saved?

Marge: . . . . the mother life (As teacher writes)

T: Mother's . . .

Marge: Her mother . . .(interrupted by another child)

T: Just a minute, Marge.

(Another child asks question - teacher says "Just a minute" and continues to write for Marge)

Marge: "Stop the fire."

T: "Stop the fire, or "Put the fire out"?

Marge: "Put the fire out." (Teacher writes)

T: Is that all?

Marge: (Nods "yes")

T: (Asks Marge to put picture on table and says she'll have the story for her tomorrow.)

Comment: -

A conventional way of speaking "Put the fire out" was imposed upon the child's more graphic and equally correct "Stop the fire."

- -

C. Setting:

A primary teacher held up pictures with objects to which children replied with the number.

T:	What number are we working on this week?
Ch:	Four.
T:	Four?
Ch:	Three?
T:	Three. That's right. You won't need to raise your hands. (Puts picture up for children to count people or objects)
T:	Louise.
Louise:	Two.
T:	Two. Lynn. (Puts up another picture)
Lynn:	One.
T:	One. That's right. (New picture) Eddie.
Eddie:	Three.
T:	Three. (New picture) Helen, how many people?
Helen:	Three.
T:	Three. That's right. (New picture) Now many do you see 'D'?
D:	Two.
T:	Two. That's a fast answer. (New picture)

Ch: Two.

T: Two. (New picture) Ann.

Ann: (Responds)

T: All right, now how many in this picture?
________?

Ch: Three.

T: How many dogs?

Ch: One.

T: How many people?

Ch: Two.

T: Two.

T: (To Dale) Slide over Dale.

T: (To child) She saw one dog and two people.
How many altogether? Can you read this then?
(Points and reads) Two and one are three.

T: (Puts up new picture) Let's try you Helen.
How many tigers? How many tigers altogether?

Helen: Three.

T: Three. How many baby tigers?

Helen: Two.

T: Two. And the big one?

Ch: One.

T: One. Would you like to tell me the numbers?
(Written under picture)

Helen: One and two make three.

T: One and two make three. Very good.
(New picture)

T: David. How many bears altogether?

David: Three.

T: Three. How many baby bears?

David: Two.

T: Two. What do you call baby bears?

Several children and David: Cubs.

T: Cubs, yes. Tell me what the story says?

David: Two and one make three.

T: Two and one make three. That was very well done, David.

T: (Next picture) Helen, how many children?

Helen: Two.

T: How many older people?

Helen: One.

T: Would you like to tell the story?

Helen: Two and one make three.

T: Two and one make three. Good.

Comment:

The teacher controlled the drill and the response requested was stereotyped and repetitous for all children. From the evidence, the children appeared to know the answers without effort or challenge.

The pressure from the public is for more drill, more teacher control, more subject matter. The records of teaching we have studied lead us to the conclusion that much of the drill and teacher control circumscribes the mental activities and the degree to which children can become involved in their school work. A noted sociologist and psychologist (who spent over a year visiting in classrooms throughout the United States) takes the position that the pupil is in school that he may "learn how to think, to develop his reason, his insight, his invention, his imagination,"[24] He visited some five hundred classrooms in a period of four years. For the most part he found the curricula stereotyped and arbitrary. He wrote:

> Academic culture is one of the most conservative and ritualized aspects of human culture. Its formalization, its lack of functional connection with the daily problems of life, has given a bloodless, fossilized character to the classroom which all of us recognize.[25]

Dr. Davis suggests that more attention be given to the child's analysis and drawing of inferences from his own observed experience.

It may be useful, as we continue to consider the nature of the minute, pervasive control of the teacher over the content and procedures the child uses in his learning, to turn to a conclusion reached by a psychiatrist.

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[24] Allison Davis, Social Class Influence on Learning (Cambridge: Harvard University Press, 1948), 93.

[25] Ibid., pp. 97-98.

In the tangled interweaving of the processes of learning and the neurotic process, repetition plays a major role. By imperceptible gradations, the repetitive drills of the learning process shade over into the automatic involuntary repetitions of the neurosis. But whenever repetition becomes automatic and obligatory, it constitutes the kernel of the neurotic process itself. Unhappily this is precisely what often occurs in education, with the consequence that an intensification of the neurotic process through repetitive drill mars our educational system from primary grades through professional and graduate levels.

This neurotic distortion of repetitive drill in the learning process can frustrate the practice of the athlete, of the musician, of the student of languages, of mathematics, of history, of the young scientist, indeed of any effort to memorize or master anything. As a consequence of this contamination of the learning process by neurotic automaticity, repetitive drill makes imperfect at least as frequently (and probably far more frequently) than it makes perfect. It grinds in error and makes more "bad habits" than good. If this were not true, practice would turn all of us into virtuosi, champion athletes, and TV quiz experts.

These facts are observable every day in every home and every school. Limitless repetition without the guidance of insight is merely self-defeating; it does deeper damage by hampering spontaneous, "intuitive," i.e., preconscious functions. There is considerable evidence that the freer is the learning process from neurotic distortion, and the less obstructed it is by counter-processes which are rooted in unconscious conflicts (i.e., the more "normal" it is), the less repetition is needed. Nevertheless in the acquisition of any skill, whether manipulative, symbolic, or instinctive, the teacher continues to place major emphasis on repetitive drill.[26]

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[26] Lawrence Kubie, Neurotic Distortion of the Creative Process (Lawrence, Kansas: University of Kansas Press, 1958) pp. 122-123.

If children are to be involved in their own learning so that it moves foreward with attention, zest, and satisfactions, the opportunities for repetitive, automatic response must be limited. Most drill requires such responses. As Dr. Kubie states, traditional drill may not be warranted to the degree its prevalence in the schools indicates. The reader of this report can be heard saying, "But we need drill. Some things have to be automatic." Once again we reiterate that the issue is one of deliberate, discriminative judgment on the part of the teacher. The records show that drill on small numbers with a ritualistic statement of the problem, drill on colors, on parts of words, and so forth, is insistent. Such lessons involve a group of children who must listen to the same thing over and over again. Many children have mastered such content before they entered school. It is true that they might take comfort and gain confidence by doing something they can do but when do they become bored? Who becomes bored first? Which ones need a challenge? How does the teacher know? What practice will children do on their own? What opportunities are there for the needed individual practice? Such questions as these call for decision-making of the highest professional caliber. No preconceived notion of a nicely ordered sequence and ritual of presentation of content will provide the basis for the proper decision.

Dr. Kubie suggests that "This misuse of repetitive drill reflects the role of anxiety in the educator as well . . . . ."[27]

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[27] Lawrence S. Kubie "Education and Maturity" in Today's Children Are Tomorrow's World (Associates of Bank Street: New York, 69 Bank Street, 1957). p. 13.

Such anxiety was evidenced by one of the teachers in the Pilot Study who came to the office to review the analysis of his four records. He was disappointed to have one record with double the negative functions of any of the other three, and controlling functions almost sixty per cent of total acts for the period. Said he, "I'm not surprised. I try so hard to teach that group. The principal and parents keep telling me, 'Those children must [illegible] I didn't realize I was making it so tough for them."

The reforms in educational practices that appear necessary cannot be made until the public becomes a little less sure of knowing the details of the educational process and somewhat more sure of the goals desired. If children are to be taught to think and to use a wider range of mental activities, changes must be made in the educational practices that are now most frequent and compelling.

CONTROL THROUGH NEGATIVE RESPONSE

The preceding section presented data on the control of the teacher over content through selection, the kinds of questions asked, and the approval given to specific forms of answer.

Control is also exercised directly with permission granted or withheld, with the direction to stop what is going on, and so forth. No one seriously believes that one can live with children and help them acquire social controls without being negative on occasion. Sometimes it is necessary to say "no" or to ask a child to refrain from doing what he is doing. These acts of teachers are, of course, directly controlling. The use of threats and accusations are control of a more subtle nature. They express the power of the teacher in ways that are more difficult for children to understand.

How much control that might be termed negative did teachers use? All the records from the 129 with acts of Negative Affectivity that exceeded ten per cent of total acts performed by the teacher are reported in Table XII. These data show that over twenty per cent of the forty-one teachers performed functions of Negative Affectivity in each of their thirty minute observations (all their records) in excess of ten per cent of the total number of acts they performed. Another way of stating this is that one teacher in five used appreciably more negative control than appears necessary. For teacher A-1 the range was from eleven per cent to thirty-three per cent with a mean of twenty-two per cent of all acts performed being negative. For this teacher, for one thirty-minute period, one act in three was negative; for another period one act in four; for one period about one act in five; and for one period, one act in ten.

Over half the teachers, twenty-three of the forty-one, had at least one thirty-minute record with Negative Affectivity over ten per cent of the total number of teaching acts. There were one-third, fourteen of the forty-one teachers, who had all of their records with less than ten per cent Negative Affectivity. These data are shown in Table XIII.

TABLE XII

DISTRIBUTION OF RECORDS WITH MORE THAN TEN PER CENT OF TOTAL ACTS IN NEGATIVE AFFECTIVITY

Over 20%				15% - 20%				11% - 14%			
Record Number	Total Acts	Negative		Record Number	Total Acts	Negative		Record Number	Total Acts	Negative	
		No.	%			No.	%			No.	%
A-1	142	49	33	1339	195	40	20	0837	293	42	14
0824	255	65	26	1013	188	37	19	0727	324	44	14
A-2	148	37	25	2237	274	52	19	2839	154	21	14
1039	243	55	23	2229	185	35	19	0638	232	33	14
3339	222	50	23	2529	235	45	19	0130	181	23	14
1518	137	30	22	E-1	49	9	19	3039	227	31	14
0735	232	50	22	1535	191	34	18	2315	180	24	13
0815	178	37	21	2327	341	61	18	1118	210	28	13
0719	224	48	21	3239	261	47	18	2139	226	30	13
2339	260	54	21	A-4	171	29	17	E-3	114	15	13
F-4	97	20	21	1427	190	32	17	C-3	165	22	13
				0219	261	45	17	2828	305	37	12
				1027	308	49	16	0938	327	40	12
				1527	218	35	16	A-3	135	15	11
				2817	288	42	15	F-3	147	16	11
				F-1	159	24	15	1135	242	26	11
				1127	282	44	15	0617	212	23	11
				2919	220	34	15	0629	221	25	11
				E-4	53	8	15	1815	263	29	11
								1829	276	30	11
								2117	390	43	11
								1739	208	24	11
								1939	342	36	11

TABLE XIII

DISTRIBUTION OF RECORDS WITH TEN PER CENT OR LESS OF THE TOTAL ACTS IN NEGATIVE AFFECTIVITY

5% - 10%				5% - 10% Continued				Below 5%			
Record Number	Total Acts	Negative		Record Number	Total Acts	Negative		Record Number	Total Acts	Negative	
		No.	%			No.	%			No.	%
2215	286	28	10	1439	147	12	8	1327	207	8	4
3217	311	32	10	2537	202	17	8	3328	272	13	4
3228	282	30	10	2515	227	15	7	1927	288	11	4
1418	198	20	10	0120	191	13	7	1612	315	13	4
0915	323	32	10	2938	278	19	7	2729	338	15	4
0238	333	32	10	0435	175	13	7	B-1	221	9	4
2029	271	28	10	0428	250	13	7	2439	208	9	4
F-2	116	10	9	3117	246	17	7	D-1	141	5	4
1315	220	19	9	2630	232	16	7	2035	316	10	3
0927	249	23	9	B-2	255	17	7	1915	315	10	3
0227	316	27	9	3429	237	15	7	0317	290	8	3
1837	368	34	9	0110	173	10	6	2417	224	7	3
1725	282	24	9	2927	314	18	6	1625	204	5	2
2017	260	22	9	3015	321	20	6	2717	285	6	2
3139	211	19	9	C-2	170	10	6	3517	195	4	2
0527	168	14	9	1239	247	16	6	B-3	185	3	2
1637	235	20	9	3125	208	14	6	B-4	187	4	2
3529	127	11	9	0515	218	13	6	2425	229	5	2
2125	321	26	8	2620	211	13	6	3437	281	5	2
3027	343	27	8	D-2	127	8	6	3415	274	5	2
C-4	130	11	8	3317	242	11	5	D-3	194	4	2
1218	369	30	8	1717	358	16	5	D-4	179	3	2
0417	201	17	8	C-1	230	11	5	E-2	209	3	1
0538	317	25	8	1227	224	11	5				
0335	232	18	8	2610	221	11	5				
0328	262	21	8	3535	236	12	5				
2738	300	24	8								

Teaching may be described as somewhat more positive than negative, although there is great variability among teachers and within teaching periods for specific teachers. There were only thirty-four of the one hundred twenty-nine records that had less than ten per cent of the total teacher acts that were acts of Positive Affectivity. However, the records from twenty-two or half the teachers are presented in this group. Two teachers taught the entire ninety-minutes in which their work was recorded with Positive Affectivity less than ten per cent. Table XIV presents these data. The median percentage acts of Positive Affectivity for the other ninety-five records is fourteen with a range from ten to twenty-seven per cent.*

Table XV presents a summary of acts of Positive Affectivity for the three groups of teachers comprising the forty-one teachers whose records form the basis for the description of teaching. It may be posited that for most teaching situations even less control of a negative nature is desirable.

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*Base data sheet is in Appendix D.

TABLE XIV

DISTRIBUTION OF RECORDS WITH LESS THAN TEN PER CENT OF TOTAL ACTS IN POSITIVE AFFECTIVITY

5% - 9%				5% - 9%				5% - 9%			
Record Number	Total Acts	Positive		Record Number	Total Acts	Positive		Record Number	Total Acts	Positive	
		No.	%			No.	%			No.	%
2139	226	20	9	3039	227	19	8	0538	317	13	4
0238	333	29	9	0837	293	22	8	1427	190	5	3
3535	236	21	9	0824	255	20	8				
2229	185	17	9	1927	288	24	8				
A-1	142	14	9	1915	315	24	8				
A-2	148	14	9	1439	147	12	8				
A-4	171	16	9	2738	300	22	7				
0938	327	30	9	1027	308	23	7				
3217	311	27	9	3027	343	24	7				
3239	261	23	9	C-1	230	15	6				
E-1	49	4	8	1725	282	16	6				
0130	181	14	8	0629	221	14	6				
3437	281	22	8	1518	137	8	6				
3429	237	20	8	0328	262	15	6				
2717	285	24	8	1939	342	20	6				
0317	290	24	8								
3228	282	22	8								

TABLE XV

SUMMARY COMPARISON OF POSITIVE AND NEGATIVE AFFECTIVITY FOR THE THREE GROUPS OF TEACHERS

	Number of Teachers	Total Acts	Positive Acts		Negative Acts	
			No.	%	No.	%
Pilot Study	6	3723	597	16	342	9
Major Study	25	19,083	2377	12	1768	9
Representative Teachers	10	7302	866	12	896	12

When the teacher performs functions of Positive Affectivity, he is controlling by the act of approval. Individuals tend to repeat those behaviors which gain approval from those around them, particularly the people who have significance for them. The significance of the person for them may be because of power over them, identification with them, or love for them. Of course, it may be a combination of all as with the parent and sometimes the teacher. Among the functions of Positive Affectivity the one of Solicitous is an offer of aid without imposing it on the child; that is, the child may accept or reject it. Another function with Positive Affectivity is that of Does For Personal, which is an expression of the most positive control since it means the child gets to do something that appears to have great personal meaning for him. For example, a child was greatly distressed about forgetting his lunch. The teacher did not wait until recess or some more convenient time to do something about it, but took care of the child immediately. Several of the teacher acts in this interaction would be coded Does for Personal.

The control exercised with Positive Affectivity is subtle and effective. It is certainly a much more desirable form than that of Negative Affectivity.

All human beings have need for approval and some influence is exerted by others upon all of us with their giving approval or withholding approval. In the superior-subordinate relationship of teacher and child, the rewarding with approval or not is a matter of skilled professional judgment. The manner in which it is done, even more than the amount, develops either dependence on the part of the child or a feeling of well-being and confidence.

The major finding of this study is the nature of the control and the pervasiveness of the control exercised by teachers. This dominative or power relationship of teacher to learner is the major pattern of relationships. Other investigators have identified it. Jenkins and Lippitt write, "The relationship of teachers and students seems to be one in which the control and the power of the teachers are recognized by both groups." [27] They report, in speaking of the high school student, "When he is asked about teachers' behavior he does not call to mind the personal relationship which may exist. He thinks immediately of the teacher as a person who is at the head of the class as an instructor or as an authority."[28]

The total degree of dominance exercised by each of the teachers in the study was computed by adding all the acts which fell in the categories of Controlling Functions, Imposition, and Negative Affectivity. These data are presented in Table XVI. It can readily be seen that only eight of the forty-one teachers (one teacher in five) are non-dominative as shown by the fifty per cent or less of their total teaching acts being non-dominative. To state it another way, eighty per cent of the teachers studied are dominative in over fifty per cent of the total number of acts they perform in the classroom.

Once again it is appropriate to call attention to this dominance and control of children as a reflection of the culture. Barker and Wright in their seven year study of the psychological habitat of children in a small midwestern

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[27] David H. Jenkins and Ronald Lippitt "Interpersonal Perceptions in the Classroom" in Jerome Seidman *Adolescent: A Book of Readings* (New York: Dryden Press, 1953), p. 597.

[28] *Ibid.*, p.594.

TABLE XVI

DISTRIBUTION OF PERCENTAGE OF COMINATIVE ACTS OF TOTAL ACTS FOR FORTY-ONE TEACHERS

Teacher	Total Acts	Dominative Acts	
		No.	%
19	945	711	75
8	726	535	74
32	854	608	71
10	739	501	68
18	907	607	67
9	899	590	66
28	747	491	66
3	784	508	65
6	665	425	64
22	745	476	64
2	910	574	63
4	626	397	63
7	780	495	63
17	848	541	63
21	937	583	62
14	535	329	61
15	546	327	60
23	781	464	59
33	736	426	58
34	792	461	58
B	848	494	58
13	622	353	57
30	891	508	57
5	703	395	56
11	734	413	56
16	754	421	56
26	664	356	54
1	545	293	53
27	923	487	53
25	664	345	52
31	665	343	52
29	812	413	51
35	558	283	51
12	840	417	50
C	695	346	50
20	847	411	49
24	661	318	48
F	519	247	48
E	424	198	47
A	596	256	43
D	641	267	42

village, found dominance of children the most frequent characteristic in the relationship of children and adults. Mothers and teachers were most dominative. Moreover, the degree of dominance of the adult did not decrease with age of the child. Next in point of frequency was nurturance, that is, doing something for the child.[29] It is well to point out that a parent has a wider variety of situations in which to counterbalance the dominance motif of the relationship.

The job of parent or teacher is extraordinarily complex. Since our concern is with the teacher, we shall only pay our respects to the recognized responsibility of parents and return to the task of describing teaching.

The complexity of a teacher's job is attested to by a government job analyst who, in the Utah Merit Study, was hired to analyze the job of teaching at all levels of the public school, primary through high school. He reported that of _all_ jobs, teaching was the most complex and complicated.[30]

All teachers everywhere _want_ children to _learn_.

---

[29] Roger Barker and Herbert Wright, _Midwest and Its Children_ (Evanston: Row Peterson Co., 1954), pp. 424, 438.

[30] Merit Rating Report, Jordan School District, (August, 1958).

All children want to learn and expect to learn. Fritz Redl gives as the number one expectation of children regarding teachers that, "Children still want some adult in a clearcut role of sombody who feels it is fun to watch them learn. . . . . . Children also want the teacher to be able to be a catalyst of group learning."[31] They want individual help and they want the whole group to learn.

Teaching and learning is the business of the school but it is not the simple "give them harder work; give them more work" that the critics suggest.

Children, according to Redl, "want teachers to show love and affection among other things, but they want them to show it in the modality which is germane to their job."[32] This means that the teacher acts with "high affinity in the developmental background and age range of the child." Also, "The basis on which they [children] make their interpretations is often the effort which the person puts into doing what the children really need."[33]

So the teacher has the elaborate task of helping each child learn, helping the group learn, and doing this according to the actual needs of the individual and the group.

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[31] Fritz Redl, "What Do Children Expect of Teachers?" Conference Speeches 1954, Associates of Bank Street College of Education, (New York: Bank Street College of Education, 69 Bank Street). pp. 46-47.

[32] Ibid., p. 49.

[33] Ibid., p. 50.

Parenthetically, it should be pointed out that the "needs" are those experienced by the child and the group or the opportunity for learning offered by the teacher will not prove to be an opportunity. Furthermore, all of this is done under conditions which permit the child to feel respected and cared for, to gain confidence in himself, and satisfying membership in a group.

We continue the description of teaching as it is, and move into the definition of good teaching.

AMELIORATION OF CONTROLLING FUNCTIONS

The analysis of specimen records of teacher-behavior through the use of the *University Revision of the Provo Code For the Analysis of Teaching* makes it possible to describe teaching quantitatively in terms of functions performed in the classroom. It also makes it possible to designate *the manner* in which the function was performed.

In our present report, as has already been shown, we use *function* as the teaching act for quantification. This does not mean, however, that we consider (nor would anyone) that each function performed by the teacher in the classroom carried the same degree of intensity, affectivity, or effected change in the teacher-learner situation in equal ways. Until more work is done and we find teachers who use more of the various ways designated by the subscripts, we have not found it desirable to place a numerically differentiated value on the manner in which the function was performed. For example, Structure-Open is counted as one act the same as Structure-Closed. With continued work with the Code, the teacher's score on the various categories will include the values assigned according to the way the function is performed. In addition, some equations will be worked out to take cognizance of the relationships in the distribution of teaching acts. For example, it is quite probable that a teacher who is relatively low in Functions of Positive Affectivity and high in Functions of Personal Responsiveness is the better teacher.

We are using the mere count of functions (acts) as an initial attempt to describe teaching with greater accuracy than has been done previously.

This section discusses the ways teachers ameliorate the power of their control. It must be made clear that all the ways we discuss were used by some teachers some of the time. The numbers involved are relatively small and there proved to be no statistical differences among teachers. Actually, teachers use these ways of ameliorating the control very little, which leads us to conclude that they do not know the importance of reduction in the power component of the relationship.

Jenkins and Lippitt, in speaking of it, write that the possibility

> " . . . . and one that seems far more desirable, would be that the power component of the relationship could be reduced to a very minimum, and that the development of mutually friendly, helpful relations would take the central position in the relationship. If this were to become predominant, students would not be asked to reconcile the apparently unreconcilable conflict between power and friendliness, and they could respond wholeheartedly in the friendly atmosphere. Specifically, teachers would become truly co-workers with their students, taking the role of colleague in the learning situation. They would have little need to spend time in the role of judge, authority or purveyor of decisions and power. This change is not an easy one as it involves fundamental attitudes related to the nature of learning and the role of the teacher. It also challenges the validity of personal needs to wield power and be an authority which many of our teachers take into the classroom. But it seems to represent an issue that must be resolved in education."[34]

Here are descriptions of ways teachers ameliorate the power of their control in the classroom, while at the same time maintaining an efficient and workmanlike situation.

Neutral Regulation. Some teachers make a production of their choice of child who is to perform specialized jobs, allowed to answer, to read his story, to put his problem on the board, and so forth; others use such situations for reward; still others choose more casually. A few teachers manage the situation so that the order of doing or responding is outside the direct control of the teacher, although the teacher, on occasion, may enforce the agreed-upon system. To illustrate: Sometimes the names of the children in the class are alphabetized and children automatically take turns getting the milk or juice for the class, taking attendance slips to the office, ringing the bell for the group to return to the classroom, and other activities necessary to the well-being of the group. Housekeeping jobs, membership on student council, are all on the basis of "everyone gets a turn" and, for the most part, the activity is considered a part of group responsibility.

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[34] David H. Jenkins and Ronald Lippitt, _op_. _cit_., p. 598.

Any manner of designating the "who is to do it" in a randomized but systematic order that places it outside the direct and personal choice of the teacher is coded Regulate Neutral.

The management of a classroom on the basis of tasks in which all must take part because they are a necessary part of living together, appears to offer more for the development of citizenship in a democratic classroom than does one operated on the basis of doing the tasks as a reward or punishment.

Structure and Regulate Open. As we have seen, the teacher most frequently keeps for himself the power to decide who will answer the question or who will do what is to be done. When the regulation is open, the people who participate have the opportunity to decide for themselves. "Does anyone have another idea? "What do you think should be done?" "Why did the Utah pioneers make the first settlements where they did?" "What do you think may happen because of the St. Lawrence Seaway?" are the kinds of Open Structure and Open Regulate that leave the choice to the individual. Through the process of choosing the aspect of the problem of concern to him, the child makes his own investment in the situation. Such investment leads to involvement and even commitment for further study and work. The motivation becomes intrinsic and related to the problem or area under consideration. This personal involvement seldom happens with Closed Structure wherein a single, specific reply is all that is acceptable; nor does it happen with Closed Regulate. After a person is named, the responsibility for working is eliminated until the next question. Moreover, the very nature of Closed Structure with its one answer invites simple memory and recall instead of stimulating the assessment of relationships, the making of comparisons, the drawing of inferences, and similar mental activities of a high order.

It has been pointed out previously that in asking for a specific answer, the teacher must then ask the next question because there is no place for the children to go. With

Open Structure, it is possible for children to add ideas of their own, to talk with one another, and to ask their own questions for their own purposes. It is only with Open Structure that spontaneous participation becomes possible as evidenced in the records we studied.

Public Criteria. The concept of the use of public criteria in the decision making process of teaching is understood but slightly. The most common procedure in the classroom is for teachers to say, "I want you to do ____." "I told you to do it in ____." "In my room you do it this way." A direction is given, a child is chosen to do something but the reason for it remains with the teacher. Public Criteria is defined as making overt the reason for the request, the specific permission, the direction, and other acts of control and power exercised by the teacher. The reasons outside the personal desire and whim of the teacher are based on situational factors, societal demands, values and personal needs, and competencies of the individual child or group.

The most frequently used societal value of taking turns accompanies a reprimand and is the negative "Wait, it is not your turn." "You can't be 'it' again until everyone has had a turn."

The next used public criteria relates to position in the room. "Please close the door, John. You are closest to it." "Bring us the books, Joan, you are near the cupboard." *Many situations in the classroom require that the teacher give a direction*. When that direction makes clear the factors within the situation which makes such a direction desirable, a model is given the children that helps them assess situational factors. This increases their perception and provides a basis for greater discrimination. To illustrate:

> A teacher spoke to three girls sitting at a table with scrap books. "Let's move the table over here a little *so the boys can have room*."
>
> A teacher admonished a group that was working with woodcarving in this manner: "You will still need to handle it carefully *because the wood is so soft your fingernails will make holes in it*."
>
> The children were in a little difficulty so the teacher structured the situation with, "*This has never happened before so we need to talk about it*."
>
> The children were giving social study reports. One member of the class was a monitor to ward when the allotted time was up. Said the teacher, "Jim, you stand up and *they'll know they have one minute to close out*.
>
> Another teacher structured the class with, "Yesterday most of us missed the third problem. We shall work it together now *to locate the trouble*."

The problems that develop around adult authority and control in the socialization of the child as a member of a given culture can be reduced with the use of Public Criteria. In addition, the use of Public Criteria as we have defined it may be extended to include the use of what we call, Universals with the act of standard setting. Perhaps it is in the setting and maintenance of standards that the teacher can act most forcibly in the role of mediator of the culture. This aspect of teacher role was rarely evidenced even in a small way by the teachers in our study. A statement like, "I want a two-finger margin," made to a class writing their stories, personalizes the universal writing convention that requires an even margin on the left side of the paper. In writing, the general relation of letters to one another, legibility, and form are all conventions to clarify communication. Such social rules could be taught as such.

Classroom standards and requests are often carried out with little meaning to children. The relationship of what is required of them to the larger society is seldom clarified. For example, a group of intermediate grade children were making designs with tile. The teacher spoke to them. "We want to be sure the design is here the way you want it. It's easier to erase on paper. That's the reason I have you do it this way." Here the teacher had an opportunity to indicate the universality of making of models, of drawing plans and specifications before attempting the work in the final medium. Instead, he made himself the source of requirement with "You can erase it" as a weak public criteria.

Another teacher used a generalization of universal application in the episode that follows:

A primary teacher was helping a child who was preparing a story for a tape recording.

> T: Maybe you're reading just a little too fast to put on the tape recorder. You read rapidly when you read to yourself but when you read to others you need to read slowly enough for others to hear.
>
> Ch: (Makes comment which indicates that she thinks all reading should be slowed down and says she will slow down all of her reading)
>
> T: No, don't slow down when you read to yourself. When you read to yourself and see the words you can think about them much faster than when you hear them. So when you read out loud you have to read slowly but when you read silently read as fast as you can.

Rules and standards related to safety on the street, highway, school bus, and swimming pool are Universals. Behavior appropriate to public places, such as a library, a bank, a restaurant, a lecture, are sufficiently prescribed and approved to be upheld as Universals of the culture.

The responsibility of a school principal for the enforcement of school attendance is a Universal in our country. We asked the children of the eleven fifth and sixth grades to respond to a short questionnaire designed to secure their perception of aspects of school life. To the question, "Who makes the rules in your school?" The larger number replied "The principal," significant beyond the .001 level of confidence. The principal should never be seen as the source of the law--any law or needed rule.

The social controls need to be seen as man's attempt to make life more rational, that is, under his control. Man does not care to live as though he were in, and of, the jungle. Social controls make life more predictable. If you cross the street with the green light, chances are you will get to the other side. Of course, many school rules are peculiar to the situation, but those factors that make the rule a necessity for living together with decency and consideration are the source of the rule and not an authority figure per se.

The use of Public Criteria and Universals assist the child in attaining cognitive clarity about rules and other elements of social control. Under conditions of unclear or lack of cognition, he is less objective in regard to external reality and reacts more strongly with his feelings. As his resentments develop toward persons whom he views as the source of his discomfort, it becomes more difficult for him to respond appropriately to authority. The dynamics of the development of social controls have been analyzed by Baldwin who holds that "cognitive learning of social rules differs in clarity from non-cognitive learning." He identifies the conditions that hamper the cognitive learning of social rules: (1) too early training, (2) enforcement without explanation, (3) inconsistent enforcement, and (4) enforcement that produces shame or guilt.[35] After a discussion of the importance of the context of learning, especially the verbal context, Baldwin writes:

> By the way he enforces the rules the parent [teacher] may structure the child's cognition so that the parent [teacher] is seen as the source of the rule, or he may appear to the child to be an interpreter of external reality. These two methods correspond roughly to the democratic and autocratic methods of control. The effect of being the source of the rules is that the parent [teacher] is the object of whatever resentment or hostility the rule arouses.[36]

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[35] Alfred Baldwin Behavior and Development in Childhood (New York: Dryden Press, 1955), p. 455.

[36] Ibid., p. 255.

It appears clear that the amelioration of the power component in the teacher's use of controlling functions is desirable. Some ways in which teachers lessen the impact of their control are identified. They use Regulate-Open and Structure-Open which permit the choice of response to be with the children; they use Regulate-Neutral which is some systematic way of ordering the participation of children without the teacher making the choice each time; they use Public Criteria which gives the reason for the direction, the structure, the reprimand, and so forth; they use universals in relation to Standard-Set. The use of universals is significant because through their use, the teacher acts explicitly in the role of _mediator of the culture_ to relate the activity and demands of the classroom to the wider society.

FACILITATING FUNCTIONS

There is a small group of functions--Checking, Demonstrate, and Clarify Procedure--that make up the category called Facilitating Functions. These functions are treated as though they were neutral. They do implement the structure. The need for the function is easily recognized, therefore, the purpose is most often held in common and accepted alike by teacher and children. For most teachers, and situations these functions make up less than ten per cent of the total number of teaching acts. The Outline of the Code given in Chapter Four explains them. They do not appear in the controlling or dominative functions we have examined, nor will they appear in the next categories of responsiveness or teacher-integrative behavior.

FUNCTIONS THAT DEVELOP CONTENT

The functions that are placed in this category are those that elaborate and explore the structure or problem that is under consideration. It may not be amiss to think of them as the heart or core of the business of the school. The teacher who performs these functions is directly helping the child with his learning and search for meanings. He is responding to him within the situation and with an appreciation of the meaning the child is bringing to it. The teacher, in responding in this manner, "opens windows" for the child. The teacher is a resource; he is, also, a learner, an explorer with the child. He is not a tester nor an inquisitor, as he so frequently appears when he performs only controlling functions.

These functions, which develop content, must be performed if the school is to help the child attain personal involvement and commitment to the content (subject matter) or problem of the class. They must be performed if the child is to have an opportunity to use mental processes other than those of simple memory and recall. These functions must be performed if the school is to encourage the child in his interest in any content or subject matter.

The chief characteristic of these functions is the responsiveness of the teacher to the data the child places in the situation. The child makes a reply or a remark and the teacher elaborates or inquires further about his statement. The inquiry, however, must be within the experience of the child; that is, it asks his opinion, reaction, or what he did, in a consultative, non-threatening manner. The response of the teacher may be one that elaborates and adds a factor not mentioned by the child. A series of examples with analytical comments may prove useful at this point.

A - Setting:

An intermediate grade class were reading.

T: What do you think they meant by the expression, one moon?

Ch: A month.

T: Could be. They might have meant a month or a day or some measurement of time. I'm not sure how much, but it was an amount of time.

Comment:

The teacher responded to the child's statement with acceptance and then elaborated with a more abstract statement. Coded: Clarify-Content.

B - Setting:

In an intermediate grade reading class, the children were describing their choice of books.

T: What are stories about yourself called?

Ch: Autobiographies.

T: Autobiographies are by yourself, about yourself. Biographies are written by another person about someone else.

Comment:

These simple elaborations, without becoming lecturettes or in any way non-accepting of what the child has said, are the most common of all the six functions in the large category: Functions That Develop Content.

C - Setting:

A primary class teacher was looking at a globe with the children. (In this illustration, Crawford is the name of the town, given for the sake of anonymity, where the children's school was located. Metropolis was the name given the largest city in the locality--Crawford being situated on the outskirts of Metropolis. Stanton is used for the name of another neighboring city.)

Ch: That's Alaska.

T: Yes. The other day someone asked me about Alaska. It's part of the United States. It's going to be the 49th state. Can you find it up here? Amanda, you come up here.

Amanda: (Locates Alaska)

T: Canada is in between. And there on the map, Metropolis is just a dot.

Ch: Where is Crawford?

T: Crawford is not on there because it is too small. Stanton isn't on there either. Would you like to see a map of Crawford?

Ch: Yes.

T: (Teacher gets map of Crawford from the back of the room) All right, here is a map that shows Metropolis and all the towns around. Here is Stanton and here's Crawford. I'll put it out and you can see if you can find where you live.

Comment: -

Teacher and children were working together. The teacher made a response to the data and meaning the children brought to the situation with the Clarify-Content in relation to Alaska, and the function of Resource-Child Initiated when the child asked about his town of Crawford.

The teacher served to Stimulate- (one) when he placed the map at the children's disposal without insisting that they locate the small towns they knew.

- -

D - Setting:

Dramatic play and other activities were in progress in a primary grade classroom. The teacher was moving from group to group.

T: (Walks over to a group with the fire engine)

Ch: We're putting out a fire.

T: How are you putting out the fire? Where is your fire hose?

Ch: (Explains they were using something in a bottle you just throw on)

T: All right, fine.

Comment: -

The children's response gave an interesting exposure of concepts of today's children. The teacher accepted their somewhat unexpected comments. The form of the questions asked were no doubt experienced by the children as consultative and non-threatening. That is, the function performed with the teacher's question was coded Clarify-Content.

- -

As teachers and children work together to learn, to explore, to organize their experience within an area of content or a problem, there is opportunity for generalizing. Generalizations developed from data with which the children were dealing appeared very seldomly in the records. A major reason for this was the frequency of the use of closed Structure and closed Regulate which allowed for no building up of data. Questions with one specific answer won't build to generalizations, except under the most extraordinary circumstances. The functions of Clarify-Generalize and Clarify-Summary were rarely found in the elementary classrooms of our study. An illustration from an intermediate class reading a newspaper about a severe snowstorm in the east may be helpful.

E - Setting:

The account in the paper contained the phrase, "impeded traffic."

T: What do you suppose that means?

Ch: (Gives idea)

Ch: (Gives idea)

Ch: (Gives idea)

Ch: (Gives idea)

Ch: (Adds that chains are needed)

T: Yes, why do you think chains helped?

Ch: (Gives idea)

T: In these places where it snows, will they have chains on for a number of months now?

Ch: (Three children who had lived where they had snow tell of their personal experiences: cars stuck, the putting on of chains, etc.)

T: Aren't we lucky to have so many people who have lived where they have snow? Bert was going to tell us about snow on the desert.

Bert: (Tells of experience going up to Mount Bruno via the desert)

T: Yes, he would have to have chains going up to Mount Bruno. Does anyone else know what is needed for cars where they have snow?

Ch: Fog lights.

Ch: Heaters.

Ch: (Gives another idea)

T: Yes, all those things are needed. What is needed in the car where it is cold?

Ch: (Offers guess)

T: What might freeze?

Ch: Oil?

(Other children offer guesses)

T: What about the water? Does water freeze?

Ch: Yes. (Explains about water)

T: Yes, water freezes in the radiator and when it freezes it breaks the pipes so that all of the water runs out. Does anyone know what they put in to keep the water from freezing?

Ch: Oil?

Ch: I've seen some stuff like that advertized on TV.

Ch: Oh, yeah. I remember my dad used to get some and put in our car.

T: It's called anti-freeze.

Chn: (Comments come in rapid succession) Oh, yeah. I remember now. Yes. I know . . .etc.

T: (Reads again from article; comes to place where the name "Catskills" appeared again) What did we say had happened in the Catskill Mountains that we know about?

Ch: Rip Wan Winkle fell asleep and slept for twenty years.

T: That's where we heard about Rip Van Winkle. It wouldn't be very good sleeping, would it? (Teacher goes on reading about depth of snow, appearance, etc.)

T: So we were talking about the snow and what happened when it fell. Would this mean that snow which fell on grass, trees, and flowers would have them covered all winter?

Ch: (Tells of personal experience seeing the snow on the trees, shrubs, roofs--its extent, etc.)

T: Snow can be a lot of fun for people; snow can cause trouble and difficulty for people.

Comment: -
Again the teacher and children were working together in an exchange of experience. A great deal of data about themselves and others were woven together. With these data a generalization was made.
- -

Another function performed by the teacher and placed in the category, Functions That Develop Content, is that of Evaluation. Evaluation is the one function within this category of responsiveness that is most often initiated by the teacher. It is a responsibility the teacher must accept. It is one way to assist the child in continuing to do what is correct and to avoid doing that which is incorrect. Note, however, that to perform this aspect of evaluation, it must be made with discrimination. The reason for the correctness or incorrectness must be given. Some examples from the records will demonstrate this point.

A - Setting:

An intermediate grade class were giving reports from their reading. After a report:

T: Betty, I'm glad you chose an easy book and I like the way you told it. There are quite a few people in our class who need to know there are easy books in our room that are also interesting.

I think you gave a little too much attention to details. If someone else reads this book, they don't want all the surprises told before hand.

Comment: -

The evaluation, both positive and negative, was given with discrimination; that is, the child had something specific to do to improve his report. Incidentally, note the teacher's imposition of appraisal of other children's needs in reference to easy books; also, the imposition of self in, "I'm glad," "I like," "I think." A more impersonal evaluation would have kept it problem-centered; a personalized "we" which would have made it more group-centered would have been preferable to teacher-centered.

- -

The children continue to make their reports.

T: Ken, yours was a good report. It would help if you faced your audience. You started out all right and then looked away. This takes away from your report. You should hold your pictures up higher so people can see.

Comment: -

The Evaluate-positive was made without discrimination. Why was it a good report? The negative evaluation was made with discrimination. The child knows what to do to improve, but not what is good to retain.

- -

Reporting continues; Jo Ellen finishes her report.

T: Jo Ellen, your report was helped by your picture. Your drawing was very good.

Another Ch: She can draw real good horses.

T: Yes, Jo Ellen loves horses and it comes out in her drawing.

Comment: -

The positive evaluation with discrimination and the supportive response in this sequence is of interest.

- -

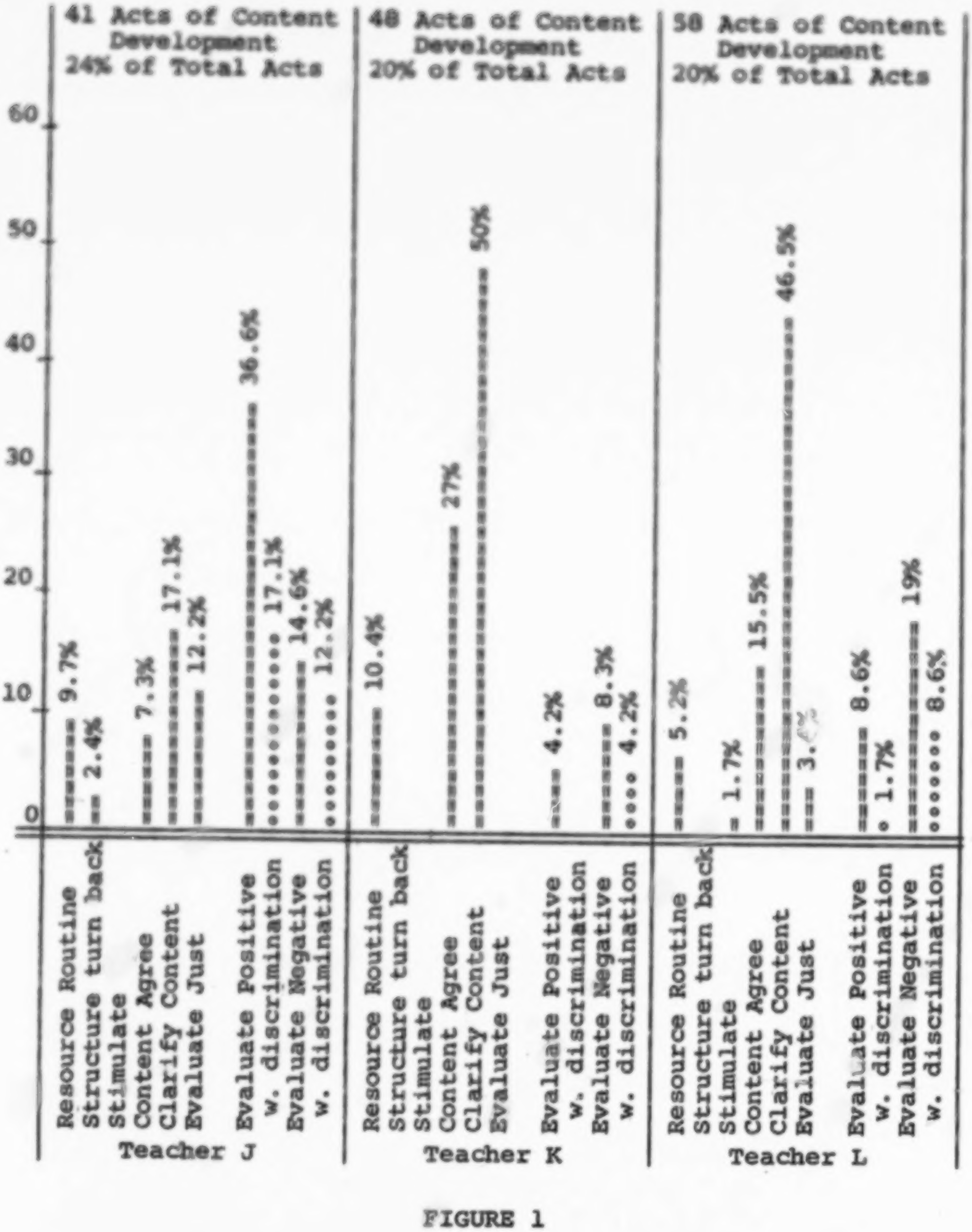

FIGURE 1

PROPORTION OF ACTS CLASSIFIED IN CONTENT DEVELOPMENT
AS USED BY THREE SIXTH-GRADE TEACHERS IN
ONE THIRTY-MINUTE READING PERIOD

There is positive evaluation and encouragement to others in another response of the teacher.

> T: I thought Mary Bascom gave a very good report and something over and above what is expected. This is another way to give a report. (Picks up child-made book cover and opens it out) Make a book cover and write a little of the story here on the fly leaf. If you don't like to get up and give an oral report, make a cover and write a little of the story.

The distribution of teaching acts within the category, Development of Content, for three sixth grade teachers in their reading periods is presented in Figure 1. Teacher J, with the high ratio of discrimination with his evaluation, especially negative, is the one from whose record we have just quoted. Note that for Teachers K and L very little or no discrimination accompanied their Evaluate-positive.

Stimulate, as defined in the Code, was not recorded in these records for any one of the three teachers. It will be recalled that with this function the teacher may initiate three alternatives as possibilities for pupil exploration or activity, but leaves the choice to the student. The other act coded Stimulate-(one) is response to a situation initiated by the child where something is suggested by the teacher and, again, the choice of whether or not to pursue the suggestion is left to the child. The teacher getting the map for the child who asked about his town may be recalled as an example.

Two items in Figure 1 for which illustrations have not been given are, Structure-Turn-Back and Content-Agree. Their brief definitions follow: Structure-Turn-Back is a response in a unique kind of situation where a teacher expresses confidence in the child. For example, a child said to the teacher, "Is the stem of my flower too long?" and the teacher replied, "How long do you want the stem?" Another time a child asked, "Which book shall I take?" The teacher responded, "Which of the books do you think you might enjoy most now?" Parenthetically, the child took both books.

One other situation of Structure-Turn-Back is that of the teacher permitting the child to express something he appears to know and wants to share. The child does not ask directly but the teacher senses his willingness, perhaps even eagerness, to express it. For example, the class was working with one multiplier in arithmetic when James said, "I can multiply with two figures." "Do you want to show us on the blackboard?" responded the teacher. This was coded Structure-Turn-Back.

Content-Agree is a straight repetition of a correct answer given by a child. With this function, there is no elaboration or further exploration. It is the lowest level of the six functions in this category.

A further word may be needed about the teacher performing the function of Resource. When the teacher acts as a resource, he permits the child to use him, his knowledge and experience, for his own (the child's own) purposes of learning. The most common of such situations occurs when the child requests the identification or pronunciation of a word or its spelling; however, the child initiates other questions, most of which are treated as extraneous by the teacher.

A common response of teachers to a request for aid on the part of children is to respond with a Structure-Intervention rather than as a resource. By asking for the original aid, the child exposes his vulnerability in relation to that specific content or area of learning. The Structure-Intervention on the part of the teacher requires him to come face to face with it again, and thus expose his inadequacy further. For example, a child asks what a word is and the teacher says, "What does the first letter say?" In arithmetic, the teacher often says, "How many are ____ and ____?" "If you divide by three, what will you get?"

These cues often trigger the children who already know and understand but have not consolidated their learning so that they can depend entirely upon themselves. To the child who is not at that point, the restructure may come as a threat and must appear to him as testing what he knows or doesn't know.

The empirical evidence in our records and the results of the Perception Tests indicate that something less than half of the interventions of this type are successful. This suggests that Structure-Intervention in such situations should be used by the teacher with great discrimination and considered knowledge of the ability of the child at that particular moment in relation to the request that he is making. Fortunately, the child's response or non-response is available to the teacher to assess the accuracy of his judgment. He can come to the child's rescue quickly and thus demonstrate to him that he wishes to help him. In giving him the help that he requests he is responding in terms of the meaning of the initiatory act on the child's part. In restructuring the situation for him, the teacher is taking control and the child is being directed and tested.

The importance of the Functions That Develop Content has been delineated. Of the total group of forty-one teachers, only three had all of their records (ninety minutes of observation) with twenty or more per cent of their total teaching functions (acts) in this category. Thirty-three of the 129 records (one-fourth) had twenty per cent or more of the total teaching acts in this category. These data are presented in Table XVII.

TABLE XVII

DISTRIBUTION OF RECORDS WITH TWENTY PER CENT OR MORE OF TOTAL ACTS IN DEVELOPMENT OF CONTENT

Over 40%				31% - 40%				20% - 30%			
Record Number	Total Acts	Content No.	Content %	Record Number	Total Acts	Content No.	Content %	Record Number	Total Acts	Content No.	Content %
A-3	135	63	47	1637	235	89	37	2919	220	66	30
E-2	209	92	44	1239	247	79	32	F-3	147	41	28
A-4	171	70	41					F-4	97	26	27
								1527	218	58	27
								3125	208	56	27
								2439	208	55	26
								3517	195	50	26
								C-1	230	59	26
								3415	274	68	25
								2927	314	75	24
								0527	168	41	24
								2237	274	65	24
								1625	204	47	23
								3015	321	72	23
								D-3	194	48	23
								D-4	179	42	23
								3429	237	53	22
								3535	236	52	22
								1315	220	47	21
								1612	315	63	20
								3437	281	58	20
								3529	127	26	20
								0538	317	63	20
								1227	224	46	20
								3317	242	48	20
								2729	338	66	20
								2035	316	63	20
								1135	242	48	20

Seventy-four per cent of all records had less than twenty per cent of the teaching acts in this category. All the records for one-half the teachers had less than twenty per cent of their total teaching functions or acts in this category as shown in Table XVIII.

Two examples of lost opportunities for use of higher mental processes will be presented. These episodes are of specific help because they demonstrate the difficulty the teacher meets in attempting to respond to the meaning of the child. The stereotyped role of the teacher as the purveyor and tester of information and the director of a neatly conceived lesson plan gets in the way of a creative response to what the child is thinking and feeling. Without such a creative response on the part of the teacher, the child does not experience the teacher as a helper in his learning and search for meaning; nor does the child have an opportunity to fully conceptualize his own ideas so that the consequences may be observed. Such consequences may be the reaction of others to the ideas themselves or the form of the idea worked out in action and materials.

A - Setting:

An intermediate grade class was working on projects centered around events of exploration involving persons such as Columbus, Ponce de Leon, Magellan, and others. They were organizing their information into plays, murals, dioramas, and stories. This episode has to do with Ponce de Leon.

TABLE XVIII

DISTRIBUTION OF RECORDS WITH LESS THAN TWENTY PER CENT OF TOTAL ACTS IN DEVELOPMENT OF CONTENT

11% to 19%								10% and Less			
Record Number	Total Acts	Content No.	Content %	Record Number	Total Acts	Content No.	Content %	Record Number	Total Acts	Content No.	Content %
2717	285	54	19	1339	195	27	14	0815	178	17	10
1815	263	50	19	1927	288	40	14	2515	227	22	10
2938	278	50	18	3217	311	43	14	1127	282	28	10
3027	343	63	18	0238	333	48	14	0227	316	32	10
1327	207	38	18	0719	224	31	14	1829	276	26	10
3328	272	48	18	C-2	170	23	14	E-1	49	5	10
2425	229	42	18	C-4	130	18	14	F-1	159	14	9
2125	321	57	18	0927	249	34	14	1218	369	33	9
0515	218	38	17	0915	323	44	14	0328	262	23	9
3039	227	39	17	0938	327	47	14	2620	211	19	9
F-2	116	20	17	3139	211	30	14	0837	293	26	9
2738	300	50	17	0417	201	29	14	3239	261	25	9
0317	290	50	17	A-1	142	19	13	0120	191	17	9
2610	221	37	17	1535	191	25	13	0629	221	19	9
3228	282	47	17	1518	137	18	13	B-1	221	17	8
1915	315	49	16	D-1	141	19	13	2828	305	23	8
0219	261	42	16	3117	246	33	13	2417	224	19	8
2630	232	36	16	2029	271	36	13	2215	286	22	7
0727	324	52	16	2229	185	24	13	1939	342	25	7
2315	180	29	16	1717	358	45	13	B-2	255	19	7
2017	260	41	16	2117	390	51	13	1427	190	12	6
1739	208	33	16	0110	173	23	13	1419	198	11	6
1725	282	47	16	0638	232	31	13	B-4	187	12	6
3339	222	36	16	B-3	185	24	13	0824	255	14	5
0428	250	36	15	0617	212	25	12	E-4	53	2	4
0335	232	35	15	1837	368	45	12	C-3	165	6	4
2327	341	52	15	A-2	148	17	12				
1013	188	28	15	0735	232	29	12				
1039	243	35	15	2339	260	31	12				
0130	181	27	15	1118	210	26	12				
1439	147	21	14	D-2	127	15	12				
2839	154	21	14	E-3	114	13	11				
2817	288	39	14	0435	175	20	11				
				2139	226	26	11				
				1027	308	33	11				
				2537	202	23	11				
				2529	235	25	11				

Announcer: Scene VI. He Discovers Land.

Ponce de Leon: (Gets off boat and kisses the land) I claim this land for Spain. I call it Florida.

T: Is that all?

Chn: (In audience) No, that's not all. There's Indians over there.

Ponce de Leon: (Looks at the Indians but doesn't go over)

Announcer: The End.

(Group starts to leave front of room to go back to their seats)

T: Okay, would you mind staying up there a minute. (To entire class) What are some of the things you liked about the play?

Ch: Costumes.

T: Any other things?

Ch: They didn't laugh too much.

T: All right.

Ch: I liked the part where he went up in the crow's nest with the little telescope.

T: That was unexpected from the little pocket, wasn't it? I thought they did a good job considering they had only two days to work on it. I liked the information they gave us in the play. The story they told us was true and based on facts in the book. We learned some things from the play. We learned where Ponce de Leon went. What are some suggestions you have?

Comment: -

The teacher identified with the children's enjoyment of the ingenious and unexpected use of the telescope the youngsters had found. The positive evaluation was made with discrimination; that is, the facts upon which the play was based were openly valued.

- -

T: If you saw the play again, what do you think you could do to improve it?

Ch: Have the Indians do something.

Ponce de Leon: They weren't supposed to do anything. They only watched Ponce de Leon land. We couldn't go over to them. They'd kill us. There were five of them and only three of us.

T: I think, Leland, the thing he meant was not questioning the savages, but there was no real definite ending to the play. We wondered if the Indians didn't have something to do. You remember before you ever were through, I said, "Is that all?" You yourself, Leland, how do you think you could improve?

Leland: (Ponce de Leon in play) The Indians could come out and say, "How."

T: Yes, ... (Moves to discussion of the need for play participants to talk louder)

Comment: -

Why couldn't Leland's (Ponce de Leon) explanation about the relationship with the Indians have been accepted and the problem--if there were one--of the audience's feelings about the inadequate ending of the play been explored? If most of the group felt that way, a real problem was present for the players to solve. The planning of the children had shown some real empathy with Ponce de Leon's feeling on seeing the strange Indians. Interesting was the teacher's recognition of the problem of the ending of the play, but he blocked problem-solving and critical thinking when he said, "We wondered if the Indians didn't have something to do?" This was complete non-acceptance of Ponce de Leon's explanation; therefore, the children gave a C-grade movie stereotype as the remedy. Mind you, this solution was offered by the group who had shown real creativeness in the building of the ship's crow's nest and use of properties such as the telescope.

- -

B - Setting:

An intermediate grade teacher was working with the class in individual reading. The children came to her one by one. The example here is with a little girl named Kaye. It is presented as though the interaction were continuous, although it was interrupted by other children conferring with the teacher and by the assignments given Kaye. The teacher was pleasant and accepting of all children throughout the period.

T: Will you tell Kaye to come, please?

Ch: (Goes and tells Kaye who comes up)

T: Will you sit down? What is the name of your book?

Kaye: "Little House in the Big Woods."

T: All right, do you remember what the name of the author of that book was?

Kaye: No.

T: Well, see if you can find it.

Kaye: (Turns to the title page)

T: Do you see the name of the author?

Kaye: (Gives the name of the illustrator)

T: (Points to word, "Illustrator") Do you know what this word says right here?

Kaye: (Hesitates)

T: How does it start?

Kaye: (Works on word; then says it)

T: Yes, do you know what "illustrator" means?

Kaye: No.

T: Do you want to get a dictionary and find out what it means?

Kaye: (Gets dictionary; looks for word)

T: (Points to guide words at the top of dictionary page) Do you know what these are and why they are up here?

Kaye: (Nods)

T: Did you find it?

Kaye: Yes.

T: Let's see, this is . . . (Points to word) What is this down here? (Points)

Kaye: Illustration.

T: What is the word? (Points again)

Kaye: Illustrator.

T: Do you know the definition of the word?

Kaye: (Answers)

T: Let's look at the word more closely.

Kaye: (Tries word)

T: Try the first part of it.

Kaye: Art...

T: Art... Now the whole word.

Kaye: Artist.

T: Good. Now can you tell me in your own words what an illustrator is?

Kaye: (Tells)

T: Good. Do you have your reading notebook with you?

Kaye: No.

T: You better get it and I'll help you.

Kaye: (Gets notebook; hands it to the teacher) Here.

T: No, this is where you're set up for a book report; let's go back here. (Turns to back of notebook) Put illustrator there and the definition for it. (Points to page)

Kaye: (Writes in notebook)

Comment:

Kaye followed the directions of the teacher. There was no attempt to give her an opportunity to find out, from the original context, that the illustrator must have had something to do with the production of the book. Kaye's own response to her reading was not asked for.

T: Well, we found the illustrator, but we still have not found out who the author is.

Kaye: Laura Ingalls Wilder.

T: Laura Ingalls Wilder. Have you seen the other books by this author on the shelf?

Kaye: No.

T: Do you like the way this author writes?

Kaye: Yes . . . . .

T: What do you like about it?

Kaye: The way she explains things.

Comment:

Here was the first opportunity for Kaye to express her own reaction, but she was not asked to continue with a "for example." Instead:

T: Did you find where they lived?

Kaye: Wisconsin.

T: Did you find Wisconsin on the map?

Kaye: I used to live in Wisconsin.

T: You used to live in Wisconsin! Well, let's find it on the map so you will know where you used to live.

(Teacher and child go to map. Child points to Wisconsin and both return)

Comment: -

The tragedy here is that we want children to know authors, illustrators, and the location of states of the Union, but our wanting of these skills takes precedence over a kind of interaction with children that allows them to become personally involved and experience an intellectual adventure that challenges their imagination and other mental activities.

What an opportunity to ask Kaye to compare the Wisconsin she knew with the Wisconsin Laura Ingalls Wilder wrote about. Moreover, when Kaye mentioned that she had lived in Wisconsin, she appeared to be expressing a highly personal meaning--nostalgia perhaps--that could have been given an outlet if a creative response to the meaning of the child had been made.

- -

Kaye is directed to read to the teacher and does so.

T: Would you stop a minute? From this book, from what you have read of it, can you describe Wisconsin? What is Wisconsin like?

Kaye: (Talks about hills, etc.)

T: They're more what?

Kaye: (Answers)

T: Is there anything else you can tell me?

Kaye: . . . . a pretty place.

T: All right, what would the climate be like?

Kaye: . . . . . . cold.

T: Why do you suppose the climate is colder?

Kaye: (Answers)

T: Yes, I notice you have the word "prairie." Did you look it up?

Kaye: No.

T: When I send you back to your seat, will you look up this word so you can tell me what the meaning is? Take your dictionary with you.

(Teacher writes in Kaye's record)

Comment: -

Once again, Kaye was asked to talk about Wisconsin from the book. Was Kaye expressing a personal reaction when she called Wisconsin "pretty?" Anyway her description or feeling about it was not explored. Another "fact question" was asked. If Kaye had any experience or concept of "prairie" she would retain little confidence in it. The dictionary definition might have been used to amplify and correct the concept of prairie that was already in the making and a meaningful definition placed in the notebook instead of a copied dictionary definition.

Rote memory and stereotyped responses won't build intellectual activity to a high order nor give the child confidence to use and extend his own mental processes.

- -

We reiterate the statement that the Functions That Develop Content, which are responsive to children as they work in content and on problems, are the heart and core of the educational process that has for its ultimate goal, "learning to learn" and the maximum development of the individual.

FUNCTIONS OF PERSONAL RESPONSIVENESS

Closely allied to content, but another aspect of responsiveness to the meanings (data) children place in the situation, are the functions the teacher performs for the child as a person. As defined in the Code, these functions are the granting of Request-Routine or Request-Makes Arrangements, the response to the child with Clarify-Problem, Clarify-Experience, or Interpret-Feelings and Interprets-Situation, and finally, the acceptance of the child's correction with Acknowledge Teacher's Mistake.

These responses are aspects of the teacher-learner interaction that build a more personal emotional tie between the two. They express empathy and concern. They accept feeling. They interpret reality, but relate it to individual meaning. They re-emphasize for the child that he counts as a person. Responses in this category are largely between teacher and child, and only occasionally, teacher and group. These functions are oftentimes interrelated with those of responsiveness in the development of content. To illustrate:

A - Setting:

A primary class was busy in an activity period doing a number of things. One group of boys was making a farm of blocks and boxes.

Butch: (From the farm activity, comments to the teacher about the paper)

T: What? I couldn't understand you.

Butch: (Repeats, but this time holds up two pieces of blue paper)

T: You mean for the pond. Oh, I see, you cut it off to make it fit.

(A few minutes later . . . Butch cries out from the farm)

Butch: It's wrecked.

T: Your farm is wrecked? What happened to it?

Butch: (Explains how the pond will not fit)

T: All right, I'll help you. (Gets scissors and sits down by farm) I like to make ponds for ducks.

Butch: You do?

T: Uhm hmm. Give me the paper you want me to use.

Butch: I'll get a big piece for you. (Butch gives it to her)

T: (As she cuts and shapes the pond) Did you ever go swimming in a pond?

Butch: No.

T: Does your grandfather have a pond on his farm, Butch?

Butch: (Not heard)

T: Do you know the difference between a pond and an ocean?

Butch: The ocean is deep.

T: It's deeper and bigger; you're right. A pond is just a small body of water. See if that will fit into your pond better. (Hands him the paper)

Butch: (Tries to put it in the pond area)

T: I think if you just pick up the block and put it on top of the water it would work better. Around the edge.

Butch: (Rearranges the pond)

T: That's right; that's the edge. Are you pleased with that, Butch, or do you want to put blocks on top all the way around.

Butch: I like it.

T: You like it that way. Are your ducks going swimming in the pond? (Teacher picks up scraps from her cutting)

Butch: (As he picks up each duck) I'm going swimming. I'm going swimming. I'm going swimming. Well, that's that. (Gets a block and begins working on another part of the farm)

Comment: -

This episode with evidence of the child's spontaneity and the expression of a feeling of closure, "That's that," appears to attest to the importance of this teacher's sensitivity. He reflected the child's feelings; he identified with the child's problem with, "I like to make ponds for ducks." He explored, within the content of the situation, the personal experience of the child; he clarified with elaboration after the child's statement that the ocean was deeper than the pond; he kept it the child's problem with, "Are you pleased with it, Butch, or do you want to put blocks on top all the way around?" The decision of the child to leave it was not questioned.

Note also that Butch continued constructive action in the farm instead of asking, "What can I do now?" or asking to do something he couldn't; for example, to play in the playhouse or on the train, both of which already had their quota of children.

- -

B - Setting:

The children in a primary class were sharing their own stories with one another.

T: All right, Hazel has something to tell us too.

Hazel: (Reads from her paper about the pets the family has at home)

T: You must have a regular zoo at your house

Hazel: I put a PS on it.

T: Oh, excuse me.

Hazel: (Finishes reading the PS)

T: How many birds do you have at your house?

Hazel: We did have two, but . . . flew out . . . got lost.

T: Which one was that?

Hazel: Budgie.

T: Ah! Not the one that went up your fingers.

Hazel: Yes.

T: Oh, I hope you find it. Let us know, won't you?

Comment: The teacher actively responded to the content of the child's story. The remark, "Not the one that went up your fingers," demonstrated previous knowledge of what the child prized.

(Lee holds hand up)

T: Yes, Lee.

Lee: (Tells about $7.00 bird being gone) . . .and he hasn't flew back yet.

T: It hasn't? Maybe it sometimes takes longer than a week for a bird to find its way back. Let's let Hazel finish because she was not through with her turn.

Comment: -

The teacher recognized Lee's desire to share and offered acceptance of him with a clarification of his concern. Also, the teacher kept the way open for Hazel to complete her story--a Regulate with Public Criteria.

- -

Hazel: (Tells more about Budgie being lost)

T: This was Budgie. I hope she comes back. All right, let's give Mary a turn, and then we have to get to our number work because we haven't much time.

Mary: (Reads story)

T: (Smiles approval for Mary)

Ch: (Another child starts to tell an incident)

T: We'd love to hear all of those tales but we don't have time. Write it down so that you'll get a chance to read it. (Teacher walks to bulletin board; looks at stories which are hanging there ready to be read; calls name of another child from story which is on top) Carolyn.

Carolyn: (Comes to bulletin board by teacher and takes her stories from the hook)

Comment: -

Note that the teacher maintained the standard of children reading their stories instead of telling them. At the same time, he encouraged with, "We'd love to hear all those tales, . . " The order in which the children were to share their stories was determined by Neutral-Regulation; that is, the children had placed their stories in order as they were ready to share.

- -

T: Carolyn has two stories. We'll only have time for one. Which one do you want to read, Carolyn?

Carolyn: Well, I have one about a mouse and one about a turtle.

Chn: (Some children urge Carolyn to read about the mouse; others ask her to read about the turtle)

T: Let's let Carolyn decide, shall we?

Carolyn: I'll read the one about the mouse. (Reads)

T: The cat was afraid of the mouse! (Laughs) Well, that was a turn-about!

Judy: (Speaks directly to Carolyn) Which of your cats was that?

Carolyn: That was Bootsy, my boy cat.

T: All right, it's time for us to go on to something else. When you get your stories written down, you can put them up here if you want to have a chance to read them.

Comment: -

The teacher showed genuine appreciation of the child's story. Again he encouraged the writing and reiterated the conditions for reading the stories, "You can put them up here if you want a chance to read them."

- -

The personal nature of responsiveness may be observed in this brief interaction.

C - Setting:

A primary teacher looked up to see a little girl just coming to school.

T: Well, Trudy, did you just get to school?

Trudy: (Replies and gives the teacher a note)

T: I'm glad you're not sick. I thought maybe you were when you didn't come. (Reads note) Oh, you went to the dentist for a check-up. What would you like to do now?

Trudy: (Replies)

T: All right, I'm glad you're here, Trudy.

(Later in the morning)

Boy: Mrs. XX, Trudy got here, didn't she?

T: Yes, she went to the doctor with her mother. We're glad she isn't sick, aren't we?

Comment:

It is interesting to speculate on the boy's question. Did he ask it for attention? Did he need further clarification of the situation of Trudy's tardiness because he didn't quite understand it? Whatever the reason for the boy's question, the teacher's response clarified and enriched reality for him.

An intermediate grade class were recopying their stories with the teacher moving among them to answer questions when asked. One boy had done no writing. When the teacher approached his desk, he said, "Look, the snow on that new building that isn't up yet makes all kinds of designs." The teacher responded to this idiomatic interpretation with, "Yes, I can see a tree at the right formed by the scaffold." "It sure is surprising what things look like," replied the boy. This entering into the child's meaning must be of real significance to the trust the child may develop in his relationship to the teacher.

The teacher has an opportunity to expand reality for the child with the use of Interpret-Situation. For example, a little girl approached the primary teacher and complained about someone bumping into her. The teacher replied, "Sally, when we have lots of people working we have to be careful, don't we?"

A - Setting:

Another teacher of the intermediate grades handled an altercation in this way.

John: He picked up our ruler and won't let us use the ruler. He is doing it all by himself.

T: I'll have to get you fellows together and see if we can iron this out.

(Continues around the room, stopping to consult with various groups as they request)

T: What is your problem now? (To boys with altercation)

John: (Explains about the ruler being picked up by Tommy)

T: (Walks over to Tommy) Do you need a ruler, Tommy?

Tommy: (Explains how he is using it)

T: All right; you have a ruler. Right?

Tommy: Yes.

T: (Steps back to other boys) And you have a ruler to use?

John: Yes.

T: Then what's your problem? (No reply, as boys bend over their work)

Only a very small percentage of total teaching acts fall in this category. From Table XIX, it can be seen that only twenty-nine of the 129 records had acts of personal responsiveness comprising eight per cent or more of the total acts. Only one teacher had all of his records, ninety minutes of observation, with this degree of personal responsiveness. Another teacher had a record (thirty minutes) with no acts of personal responsiveness. As may be read from Table XX, sixty-nine per cent of all records had five per cent or less of all acts in the category, Functions of Personal Response.

The teaching functions of direct responsiveness that are placed in the categories, Functions That Develop Content, Functions of Personal Response, and Functions of Positive Affectivity, may be grouped as Integrative acts according to the analysis of Harold Anderson.

He indicates that "dominative behavior and socially integrative behavior are psychologically different." The data we have presented in this chapter offer further description of the differences in the two kinds of behavior. Dominative behavior is coercive; it is largely inflexible.

Anderson has this to say about dominative behavior:

TABLE XIX

DISTRIBUTION OF RECORDS WITH EIGHT PER CENT OR MORE OF TOTAL ACTS IN RESPONSIVENESS

Over 12%				8% - 12%			
Record Number	Total Acts	Response		Record Number	Total Acts	Response	
		No.	%			No.	%
1439	147	31	21	1239	247	31	12
2439	208	41	20	0527	168	20	12
1339	195	35	18	2839	154	19	12
0110	173	28	16	2717	285	31	11
2610	221	36	16	D-4	179	20	11
2515	227	35	15	2738	300	30	10
A-2	148	22	15	1118	210	20	10
3039	227	33	15	1427	190	19	10
E-4	53	7	13	2529	235	22	9
				2029	271	26	9
				D-2	127	11	9
				C-4	130	12	9
				2229	185	16	9
				2417	224	17	8
				2729	338	28	8
				3517	195	16	8
				1227	224	19	8
				F-2	116	9	8
				2339	260	20	8
				0417	201	17	8

TABLE XX

DISTRIBUTION OF RECORDS WITH LESS THAN EIGHT PER CENT OF TOTAL ACTS IN RESPONSIVENESS

5% - 7%				0% - 4%				0% - 4%			
Record Number	Total Acts	Response No.	Response %	Record Number	Total Acts	Response No.	Response %	Record Number	Total Acts	Response No.	Response %
0120	191	13	7	1418	198	8	4	B-1	221	7	3
0130	181	13	7	2620	211	9	4	B-3	185	5	3
0515	218	15	7	2630	232	9	4	1725	282	8	3
F-3	147	11	7	A-1	142	6	4	1837	368	11	3
C-1	230	16	7	3015	321	14	4	3437	281	8	3
2315	180	12	7	D-1	141	5	4	0538	317	7	2
3139	211	14	7	0617	212	9	4	3027	343	6	2
3339	222	16	7	0638	232	10	4	D-3	194	3	2
1739	208	14	7	0727	324	14	4	C-3	165	3	2
2425	229	13	6	0719	224	9	4	2327	341	6	2
3535	236	15	6	2237	274	10	4	3117	246	6	2
A-3	135	8	6	0335	232	9	4	3125	208	4	2
F-4	97	6	6	0435	175	7	4	3317	242	4	2
0629	221	14	6	1518	137	5	4	1027	308	7	2
0317	290	17	6	E-1	49	2	4	1637	235	5	2
1013	188	11	6	E-3	114	4	4	0227	316	5	2
1535	191	11	6	1815	263	10	4	0238	333	8	2
1625	204	12	6	0915	323	14	4	2927	314	7	2
0219	261	14	6	1927	288	10	4	0837	293	6	2
2919	220	14	6	3239	261	10	4	1829	276	6	2
0815	178	11	6	3429	237	10	4	0927	249	4	2
2537	202	10	5	1315	220	6	3	0938	327	6	2
1327	207	11	5	A-4	171	5	3	1218	369	3	1
3529	127	7	5	2035	316	11	3	2215	286	2	1
2017	260	13	5	F-1	159	5	3	0328	262	2	1
C-2	170	9	5	1127	282	8	3	0428	250	3	1
1135	242	12	5	0735	232	6	3	B-4	187	2	1
2139	226	11	5	2117	390	12	3	E-2	209	1	1
B-2	255	14	5	2125	321	11	3	1717	358	5	1
				3228	272	7	3	2817	288	2	1
				1039	243	8	3	2828	305	4	1
				1527	218	7	3	2938	278	2	1
				1612	315	8	3	0824	255	3	1
								1915	315	2	1
								1939	342	5	1
								3217	311	4	1
								3228	282	3	1
								3415	274	1	0

> Behavior is said to be dominative when it is characterized by a rigidity and inflexibility of purpose, by an inability or an unwillingness to admit the contribution of another's experience, desires, purposes, or judgment in the determining of goals which concern others. Domination is thus behavior based partly on a failure to admit the psychological inevitability of individual differences. In domination one attempts to make others behave according to one's own standards or purposes. Domination may therefore be regarded also as a frustration of the behavior of someone else. As such it tends to obstruct the spontaneous behavior of another.[37]

The data on dominative behavior of the teachers in our study is presented on page 129.

Anderson's analysis of integrative behavior appears to encompass the functions in our categories known as Functions That Develop Content, Functions of Personal Response, and Functions of Positive Affectivity.

> If, instead of compelling the companion to do as one says, one asks the companion and by explanation makes the request meaningful to the other so that the other can voluntarily co-operate, such behavior is said to be an expression not so much of pursuing one's own unique purposes as of attempting to discover common purposes. For such expenditure of energy in common purposes, for an attempt to reduce instead of augment or incite conflict, the term socially integrative behavior is used. A person changing his mind when confronted with new evidence which has grown out of the experience of another is said to be integrating differences.[38]

Anderson continues, "it [integrative behavior] makes allowances in one's behavior for differences in others . . . .

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[37] Harold H. Anderson, "Studies of Classroom Personalities," American Psychology Monograph, No. 6, 1945. (Stanford, California: Stanford University Press), p. 9.

[38] Ibid.

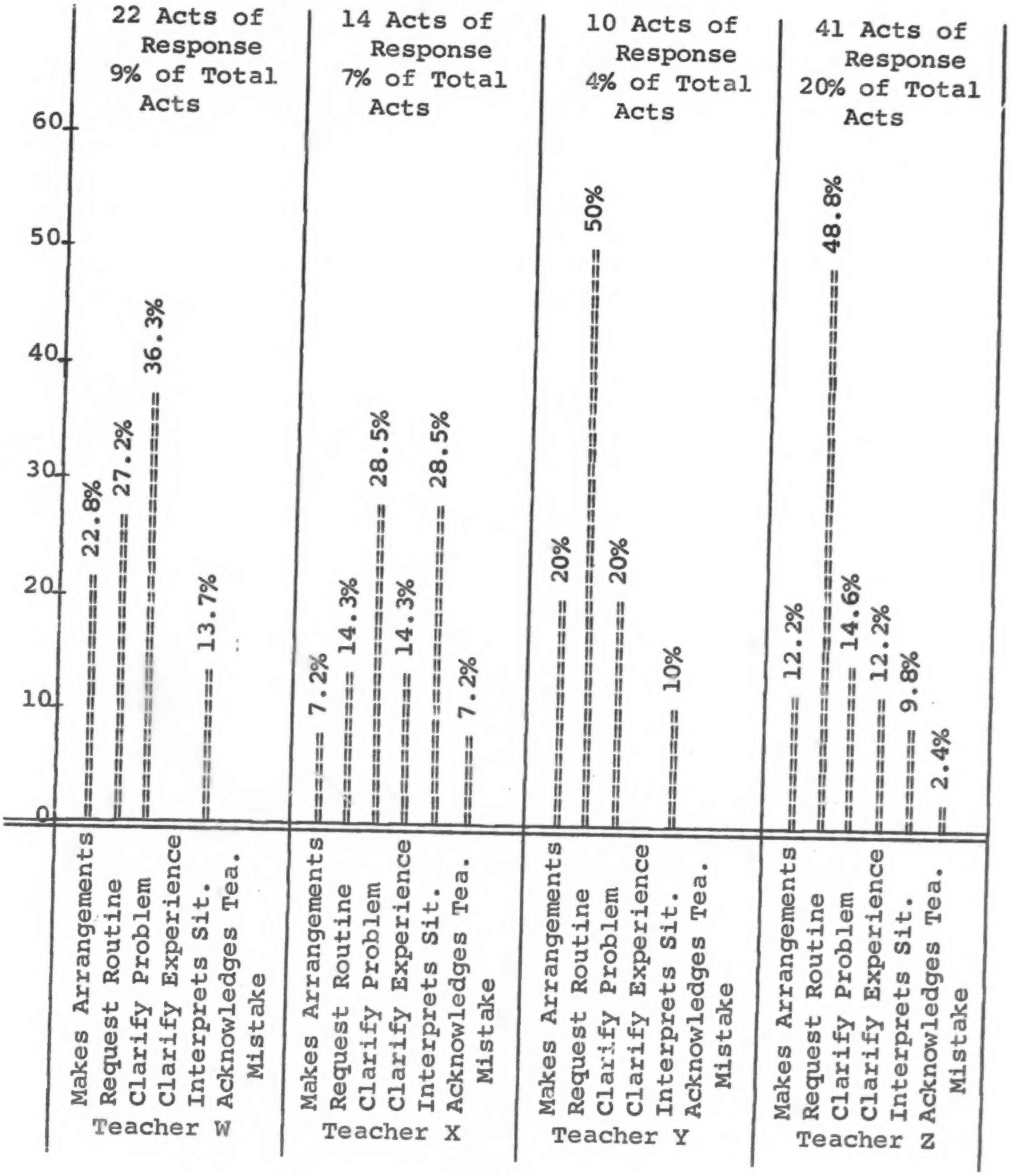

FIGURE 2

PROPORTION OF ACTS CLASSIFIED IN RESPONSIVENESS CATEGORY AS USED BY FOUR FIFTH-GRADE TEACHERS (ONE THIRTY-MINUTE ACTIVITY PERIOD)

Integrative behavior is flexible, adaptive, objective, scientific, co-operative. It is an expression of the operation of democratic processes."[39]

Table XXI presents for each teacher the percentage that integrative acts were of the total number of acts for the three records. No teacher had as many as fifty per cent of all teaching acts characterized as integrative. Thirty teachers or seventy-three per cent of the forty-one teachers had forty per cent or less of their total acts integrative.*

Figure 2 presents an analysis of responsiveness as recorded for four fifth-grade teachers in one thirty-minute activity period. The range of teacher responsiveness as expressed in percentage of total acts is from four to twenty per cent. The function of Request-Routine is high for all teachers and for two teachers constitutes half of their personal responsiveness to children. Two teachers had no recorded functions of Clarify-Experience.

This chapter has presented a description of teaching as found in the classrooms of Judged-good teachers and a small group of Representative teachers who, of course, had among them some very good teachers.

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[39] _Ibid_., pp. 9-10.

*Integrative acts combine the categories of Functions That Develop Content, Functions of Personal Response, and Functions of Positive Affectivity. Facilitating functions considered neutral do not appear in the Integrative or Dominative data.

TABLE XXI

DISTRIBUTION OF PERCENTAGE OF INTEGRATIVE ACTS OF TOTAL ACTS FOR FORTY-ONE TEACHERS

Teacher Number	Total Acts	Integrative Acts	
		No.	%
D	641	306	48
A	596	277	46
12	840	366	44
24	661	289	44
29	812	358	44
E	424	188	44
20	847	367	43
F	519	218	42
16	754	309	41
31	665	272	41
35	558	229	41
13	622	239	38
27	923	355	38
5	703	254	36
11	734	266	36
26	664	240	36
C	695	250	36
25	664	233	35
15	546	184	34
30	891	302	34
33	736	251	34
34	792	273	34
1	545	181	33
21	937	301	32
4	626	193	31
7	780	244	31
17	848	260	31
2	910	275	30
22	745	221	30
23	781	237	30
28	747	213	29
18	907	256	28
B	848	235	28
6	665	179	27
9	899	240	27
3	784	204	26
10	739	192	26
14	535	140	26
32	854	204	24
19	945	199	21
8	726	137	19

4

and presented, we may now describe, in summary form, teaching as we found it.

DESCRIPTION OF TEACHING: SUMMARY

I. Teaching is extraordinarily complex with many levels of action and emotionality.

II. Teaching is interaction with a child or group. From the standpoint of the teacher, with his authority and potential influence, teaching requires an infinite number of split-second decisions. The essence of a professional is his ability to make these decisions with fine discriminations and knowledge of the bases on which he makes them.

III. Teachers worked with individual children and smaller groups more than with the large group in an undifferentiated manner.

IV. The major functions performed in the classroom by the teachers were those of control. For most teachers the acts of control were well over forty per cent of all acts recorded for them. For one-third of the 129 records, the acts of control were from fifty to seventy per cent of the total acts. Only thirteen per cent of the total number of records studied had controlling acts of thirty per cent or less.

V. The amount of control exercised for the purpose of maintaining proper pupil behavior (discipline) was more than adequate in all rooms but four. For these rooms it was not the lack of numbers in the controlling acts but the quality or nature of the control.

VI. The control of the teacher was most prominent and demanding over the minutia of what the child would study or give his attention to, and exactly how he would answer. For much of the time, the what he was to answer and how he was to answer were pre-determined by the teacher.

VII. The most common and nearly exclusive mental activity invited by the teacher under such conditions of control was that of simple memory and recall.

VIII. The use of much drill and repetition was common, especially in the primary grades. Oftentimes the content seemed inconsequential and already known by the children. Other times their response indicated a lack of understanding of the materials. It was shown that this stage of affairs had been reported by other observers.

IX. The mental activities of children associated with choice, exploration of ideas, analysis of personal experience, problem-solving, and spontaneous reaction to the content under consideration were seldom found. When they appeared they were most often cut short, ignored, or in some other way unaccepted by the teacher.

X. The teaching situation for the most part was more positive than negative. Most of the teaching acts coded as Positive Affectivity were made up of the stereotyped, "Yes," "All right," "Good." Teachers, in general, were pleasant and non-punitive with children.

XI. The functions of Controlling, Imposition, and Negative Affectivity were added together and presented as an index of domination. Eighty per cent of the forty-one teachers studied were dominative in over fifty per cent of the total number of teaching acts they performed in the classroom.

XII. It was possible to identify some ways of controlling children that ameliorated the power component of the teacher. These ways were used too infrequently to handle statistically. They were the use of Structure-Open and Regulate-Open; the use of Neutral Regulation; the use of Public Criteria with Structure, Regulate, Reprimand, or Admonish; also, the use of Universals with the setting and maintenance of standards.

XIII. The teachers, in failing to use Public Criteria and Universals, seldom performed in the role of mediator of the culture--neither in the building of values and social rules nor in relating the requirements of school to the larger society.

XIV. Responsiveness on the part of teachers to the replies of children in their dealing with content in the form of elaboration, generalization, summarization, and stimulation was infrequent.

XV. The teacher replied to a child's question much more often in the form of re-structure of the child's question than otherwise, perhaps in an attempt to give him a hint rather than give him the answer as a Resource.

XVI. The teacher tended to evaluate more often positively than negatively and accompanied the evaluation with discrimination less than half the time. When evaluation was accompanied by discrimination, the reason for correctness or incorrectness was made explicit.

XVII. The teacher responded to the child within the structure of content with a smaller percentage of teaching acts than might be expected. Seventy-five per cent of the records had less than twenty per cent of all teaching acts in the category, Functions That Develop Content. If children are to use mental processes other than recall and if they are to become personally involved in content, it seems reasonable to wish for more teaching acts in this category.

XVIII. The teaching acts of responsiveness to children on a personal basis were small. Only twenty-nine of the records had eight per cent or more of the total number of teaching acts in this category. Only one teacher had all of his records with a personal responsiveness that high.

XIX. The neutral acts of facilitating accounted for less than ten per cent of all teaching acts.

XX. Teachers were attempting pupil-teacher planning, individualized instruction, use of concrete experience, and the use of a variety of materials; however, for the most part, their interaction with children remained controlling and directive, giving the child little opportunity for the exercise of initiative and the solving of problems. The furniture in the classrooms, the color on the walls, the illustrations in the books, and the brightness and variety of children's clothing have all changed, as has the appearance and grooming of the teacher, but the basic pattern of teacher-child relationship has not changed.

The general misunderstanding of what schools are like has led to the making of recommendations that serve as blocks to the innovations necessary in our schools. The latter half of the twentieth century is making unprecedented demands upon the school. It is our belief that these demands can only be met with appropriate changes in the educational experiences of children. It is, also, our belief that we now have sufficient knowledge to make and act on the hypotheses related to conditions of learning that are more tenable than those upon which we now act.

The next chapter presents a Model of Good Teaching with the rationale that supports it. Chapter VII will present the teaching we have recorded and described against the Model.

CHAPTER VI

A MODEL OF GOOD TEACHING

This chapter presents a definition or a Model of Good Teaching. It is our belief that the world we live in, moving as it is toward the twenty-first century, is making specific and insistent demands upon us. What are the specific and insistent demands made by this nuclear, one-world, space-age with its instantaneous communicative powers?

We wish to outline a few of the demands of the present and to indicate some of the conditions for the development of man toward a greater fulfillment and realization of self.

The world of today:

I. Demands highly trained men and women in a variety of fields of action and at a wide range of levels. For individuals, this training is a long and arduous period of study and apprenticeship before they are able to launch independent personal careers of maximum usefulness.

The problem for society, particularly the home and the school, is how to so arrange the environment and the adult (parent, teacher) interaction with children and youth to facilitate their involvement, commitment, and interest in an area of endeavor, so that they will voluntarily and with an investment of their true selves subject themselves to this long period of training.

The perils associated with a large group of unskilled men and women are very great indeed to a country with an economy based upon highly developed technology. Perhaps even more dangerous to the retention of democracy are the attitudes and values of its population. These attitudes and values are developed in interaction with others on a face-to-face relationship or through the media of the pictured and printed word. Communicative skills, broadly defined, must be highly developed in the population.

The world of today:

II. Demands a change in attitude toward the authority and efficacy of so-called facts.

That which is a fact today may be supplanted by another more useful fact tomorrow. A planet is visited; new depths in the ocean are plummeted; a new hybrid is born; an unsuspected relationship is discovered. Man in his restless human search to understand and to control the universe of which he is a part remakes, adds to, and continually expands his knowledge. No one mind can encompass the knowledge presently available in any given field. This past spring a story was told of the dean of a famous medical school, speaking to the graduates of the class of 1959, saying, "Remember that at least half of what we have taught you is not true. The trouble is that we cannot tell you which half."

The teacher's chief responsibility can no longer be that of purveyor and tester of information. In the first place we know too much about the phenomena of forgetting. Secondly, we know that each individual selects and retains only that which has meaning for him. Thirdly, if we value not the "idiot-savant" but the man who uses his knowledge in ways that control and affect his day by day behavior, we shall accept that the important thing is _how he_ considers the fact, not knowledge of the fact _per se_. Perhaps there is no more dramatic or tragic example in history than the ignoring of the facts of child-bed fever with the consequence that for a quarter of a century women died unnecessarily in childbirth. The cause of this tragedy was the attitude toward the facts presented by Dr. Simmelweis and not lack of knowledge of the facts.

Today the scientific biological fact of lack of differences in innate mental capacity among races of mankind is denied by many and they act accordingly.

Man acts on his ideas about things; his feelings, his fears, his wants, his personal beliefs form the mainspring of his action. A fact by itself, no matter by what means it has seemingly been proved, will not trigger action until someone accepts it. The philosopher, Susanne K. Langer, has described the process of each man making his own world.

> The world is something human.
>
> What makes the difference is the peculiar tendency of the human brain to use the sense impressions it receives not only as stimuli or obstacles to physical action, but as material for its specialized function, imagination. We not only see things, but at the same time we imagine them to have all sorts of properties that one cannot see. Animals respond to outside stimuli either overtly or not at all; but men respond largely in a cerebral, invisible way, producing images, notions, figments of all sorts that serve as symbols for ideas. The result is that we live in a web of ideas, a fabric of our own making wherein we catch the contributions of outside reality, sights, sounds, smells, etc. Actually perceptions come and go, and are beyond our control (except insofar as we may open or shut our eyes, touch things or not, and cause a few changes to happen), but symbols may be found or produced at will, and manipulated with great freedom; by means of them we supplement our fragmentary sensations and build up around each perceptual core a structure of ideas. That is the sense of saying we have ideas about what we actually see.[40]

With the knowledge of the role of information, its changing nature, its individual nature, its great importance to man's understanding and actions, we can no longer afford to be satisfied with schools that merely promote the recitation or parroting of information and the regurgitation of facts. Instead, schools must become places where ideas are explored; where new formulations and classifications may be subjected to experiment; where intellectual constructs and symbols that give order to natural and social phenomena are recognized, sought, and respected.

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[40] Susanne K. Langer, "The Growing Center," in Frontiers of Knowledge by Lynn White, (New York: Harper and Brothers, 1956), p. 260.

Schwab advises the teaching of science as inquiry. He says that "properties accrue to emerging knowledge which distinguish it sharply from nineteenth century science."[41] He identifies three properties of emerging knowledge; first, the special frame of reference of scientific knowledge. This must be known in order to assimilate, reject, or accept the knowledge. He states:

> In general, the conclusions of scientific investigation are not about some quantity of nature in its pristine state, but about something which the principles of investigation have made, altered or confined. The conclusions, therefore, are unintelligible or misleading unless they are known in the context of inquiry which structured and bounded the matters to which they refer.[42]

The second property of scientific knowledge identified by Schwab is its revisionary character. By this he means there is "not only creation of knowledge via a chosen set of principles, but through the same inquiries, a testing of the principles themselves, a testing which leads to new principles comprehensive of more and more richness of the originating subject matter."[43]

New knowledge then is not the simple adding on of one fact after another, but the reordering, rearranging to make it

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[41] Joseph J. Schwab, "The Teaching of Science of Inquiry" Bulletin of the Atomic Scientists, Vol. XIV, (November 1958). p. 374.

[42] *Ibid.*, p. 375

[43] *Ibid.*

"more comprehensive, more discriminating, or more nearly exhaustive of the originating subject materials."[44]

The third property of scientific knowledge of today is its plural character. That is, the richness and variety of the subject matter makes it possible for different invesitgators to simultaneously examine it with the application "of several sets of effective principles..... Each such inquiry may give rise to form and kind of knowledge distinct from that produced by the other."[45]

If we are to view scientific knowledge in this way, it becomes clear that education must not be authoritative, dogmatic, and finished with a grade recorded in the teacher's book or the registrar's office.

Education must be for analysis, for synthesis, for discrimination, for flexibility, for the most complete use of all mental activities possible. One primary goal of education must be _to learn to learn_.

The world of today:

III. Demands the ability on the part of individuals to deal constructively with change and its companions: tension and anxiety.

It may not be far-fetched to suggest that change is the one most pervasive fact of our world. It enters into every facet of relationship. A brief enumeration may be suggestive:

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[44] _Ibid_.

[45] _Ibid_.

(a) Change in family life with more women working outside the home, with the development of suburbia, with the internal shift toward more equalitarian relationships within the family.

(b) Change in occupational requirements and the probability of changes within one's working lifetime; for example, automation or the discovery of new products.

(c) Change in physical mobility, decentralization of large plants, new modes of transportation.

(d) Change in life expectancy.

(e) Change in relationship to other peoples of the world with their own ideas and aspirations.

There is little doubt but that we shall continue to have change at an accelerated rate; however, change does not occur evenly in all related aspects of living. Witness the anachronism of city and county governments in areas that no longer are differentiated on any functional index one chooses to use. The problems that arise with different forms of change for the community and for the individual are bound to bring anxiety and, in some cases, may be seen as a personal threat. What kind of educational experiences enable children to meet and even promote change without undue anxiety? What kind of educational experience permits them to foresee, to judge intelligently, and to integrate the many aspects of any change in such a way that truly constructive results follow for all.

The world of today:

> IV. Demands that each man place himself in relationship to all of mankind. There was a period of centuries when man lived by considering only "my people," "my tribe," against all other peoples and tribes. Today such intricate, pervasive, and complete interdependence exists that self-preservation, if nothing more, demands some concern and interest in the welfare of all peoples everywhere. Each man must care for the human race.

Does not this close relationship to all people throughout the world, who, after all, are never farther than twelve hours from us, suggest that history, geography, foreign policy, national sovereignty, United Nations, World Bank, revolution, individual freedom, six-mile off-shore limit, and a host of other "subject-matter" have a new and deeper significance? For example, can one secure more than the story of the inception of the Monroe Doctrine from a textbook? Do specific and identifiable groups now feel differently about it?

The latter half of the twentieth century demands bold and new ideas, the perception of new relationships, and the ability to understand and predict with some degree of confidence the total meaning and probable consequence of events separated from one another in distance and time. It requires a dynamic view of the world. No geography that discusses only man's adaptation to his physical environment is enough. Man does important and crucial things to the physical environment. The "what" man does and the "why" he does it, and "what he may do" become basic subject-matter for the schools.

The world of today:

V. Demands that each individual achieve some degree of personal identity, know who and what he is. Life must have meaning and zest for him.

Our experience with the twenty-two Americans who defected to China at the end of the Korean War and the whole story of psychological isolation practiced by the Chinese upon prisoners has shown us much about the importance of people who feel a sense of personal belonging to a group (family, town, country) and a sense of social responsibility. There is some evidence that modern life has given us men without strong feeling of personal identity.[46] Instead, the "organization man" and the conformist have been identified. Furthermore, it has been noted that our young men want security and non-involvement in the problems of our times.[47]

If modern man can be identified by the fore-going sketch, he would appear as not entirely equal to the demands of the closing century.

This we do not believe.

In spite of juvenile delinquency figures, the divorce rate, and the unhappy facts of mental illness, we do believe that man can respond constructively to the challenge of the waning twentieth century. However, we do believe that living in the latter part of the twentiety century actually does make demands on man unknown in previous times and places. As an inhabitant of a world inexorably interdependent, he is called upon to make judgments involving a greater number of relationships than ever before. It is not far-fetched to insist that survival depends upon a degree of functional intelligence actually higher than ordinarily attained but not higher than most humans can attain. Higher functional intelligence is not the only demand of this century; it also demands a humanness, a concern for, and an awareness of all mankind less necessary in previous times and places. It demands a courageous man with acceptance of his own emotions and the ability to deal constructively with them. It demands a man who more nearly reaches his potentials than man has in the past. It demands an image of what man may become.

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[46] Allen Wheelis, The Quest for Identity (New York: W. W. Norton and Company, Inc., 1958).

[47] Phillip E. Jacob, Changing Values in College (New York: Harper and Brothers, 1957).

It may now be appropriate to ask what specific attributes we believe man can acquire. Since we believe that all men are creative, at least to some degree, how may that creativity be fostered? Since we believe that all men can be self-directed and socially responsible, how may they be developed? Since we believe that all men make their own private world through the process of selective attention and purposive behavior, in the interests of enhancement and defense of the self, how may this private world be expanded and made to include more reality and thus make it possible to reach more commonality with others?

Since we believe that all men have within them a "thrust for growth," for development, for the use of all their powers and functions, how may blocks to their growth be prevented? Since we believe that man finds his greatest fulfillment in productive activity of some kind in which he believes and to which he is committed, what opportunities does he need to find such activity to which he can give himself?

As we identify man's potentialities and those elements that are holding him back, that is, preventing him from becoming what he might, isn't it possible to do something about it? Can we restate our educational objectives in terms of the man we would have the child become--a creative man using his full capacities and cherished in his uniqueness?

THE ATTRIBUTES OF THE MAN WE WOULD HAVE ALL CHILDREN BECOME:

I. We want each child to grow into a man with a high degree of autonomy and "inner-directedness" with feelings of personal identity (who and what he is). His value system will be much more conscious than not and will be both _firm_ and _emergent_.

II. We want each child to grow into a man who is "open to his experience." His search for meaning is not blinded nor fore-shortened by prejudice and predetermined answers. Instead, he can accept feedback from his observations of the physical and social world. He can decode the responses others make to him. He can and does throughout his lifetime increase his relatedness to other people. Also, he can and does increase his relatedness to objects, places, and situations.

III. We want each child to grow into a man with highly developed communicative skills. Among others, such skills include sharing of one's own ideas and experiences, listening to and actively seeking the meaning of others, reading for enjoyment and for specific or general information, interpreting and evaluating what is read, using radio and television with some critical evaluation, using and interpreting quantitative symbols and information.

IV. We want each child to grow into a man who cherishes uniqueness and differences in others and in himself. He is a man aware of his emotions. He courts love, joy, and happiness. He is relatively free from fear, anxiety, hostility, and aggression. He does, however, recognize these adverse feelings in himself and others and develops constructive ways of meeting and handling them.

V. We want each child to grow into a man who possesses confidence in himself because of his knowledge of personal worth and success. He has acquired competence in some area valued in our society.

VI. We want each child to grow into a man who has cultivated and continues to cultivate his intellectual powers. Such intellectual powers are manifest in problem-solving situations; in acts of comparison, the drawing of inferences, the assessing of consequences, and in the process of analysis and synthesis; in the acts of invention and organization. The cultivation of higher mental processes permits a man to make sharpened and improved discriminations and judgments. It keeps him an inquiring man forever seeking new meanings and understandings. The more adequately man cultivates and uses the mental equipment that is his and tempers it with the wisdom of the heart, the more nearly he fulfills the promise of the species--MAN.

VII. We want each child to grow into a man who uses initiative and exercises imagination. He is sensitive to problem areas. He has the courage to take some risks in his explorations and inventiveness. He possesses sufficient faith in himself and his experience to tolerate ambiguity as he searches for better solutions to problems. He is the creative man.

VIII. We want each child to grow into a man who is personally involved and committed to constructive production of some kind. By production is meant work and activity that is useful and needed. Modern society has need now and in the future for an infinite variety of activities. However, it is only with deep involvement and a kind of personal commitment that we get a Salk vaccine, the first Ford, the first telephone, and so forth.

IX. We want each child to grow into a man who accepts responsibility for participation and action for the common good. This kind of social responsibility is evidenced in concern for local civic affairs, for the maintenance of individual freedom, for the well being of all members of the community. Social responsibility cannot stop with one's community but must be extended to the nation and the world.

CONDITIONS THAT FOSTER INDIVIDUAL GROWTH AND RESPONSIBILITY

As human beings have lived and exercised a constant search for meanings and understandings, they have come to understand more about themselves. Although such understandings are imperfect, we believe we cannot afford to ignore those upon which there is most agreement.

It should be made clear that we do not believe that the school is the sole or even the most important agency in the process of the child becoming the man. We do believe, however, that the ten to twelve years of school experienced by the largest majority of children in American has an impact and that this impact is accumulative. We do believe that this impact is much greater on some children than on others and that it is not easy (indeed, who has tried?) to determine for whom the impact is greatest. Furthermore, we would hypothesize that the school we would make available to all children would prove to be a greater and more constructive force in children's lives than the kind of school most of them now attend.

We reiterate our belief in the potentialities that lie within man--all men. Also, we believe that man has increased his knowledge of self and his becoming; therefore, it is possible for schools to provide better conditions for human growth. Harold Anderson's studies on behavior classified as dominative and integrative have been cited in the previous chapter. More recently he has made a statement that summarizes two kinds of human environments and suggests the consequences of each.

SOCIALLY INTEGRATIVE BEHAVIOR
The Creative Growth Circle

The socially propitious human environment as it concerns human interacting is a mutually accepting circular phenomenon.

If one human being tends to make a propitious environment for another, the other tends to make a propitious environment for the one.

If one tends to work with another, the other tends to work with the one.

If one tends to listen to another, tries to understand him, to learn from him, the other tends to listen to the one, to try to understand him, to learn from him.

This kind of propitious, accepting, nonthreatening, nonconflictual relating constitutes a growth circle in human interacting.

DOMINATION
The Vicious Circle

Domination is found in schoolrooms, families, and factories. It has been a conspicuous part of international diplomacy of all time.

In the psychology of human behavior all uses of force, coercion, domination, shame, blame, guilt have one effect: the stifling of the creative process, the annihilation of originality. This is the environmental degrading of the quality of behavior.

No matter what social justification there may be for momentary use of domination, without more than domination the effect is the same.

The anticipated reaction to domination is resistance.

Aggression meets aggression; that is, domination incites resistance as long as it is "safe" to resist. Within this range domination sets up a vicious circle of interacting.

Socially integrative behavior increases two-way communication, increases understanding.

It is in this positive accepting, nonthreatening relating with one's environment that are found the positive emotions mentioned by poets and psychologists.

Delight, joy, enthusiasm, ecstasy are associated with experiences of spontaneity and harmony, with action, communication, production, achievement.

If... domination is so great that it is not safe to resist, domination will produce ambiguous, vacillating, unstructured confused relating.

A further increase of domination will produce conformity, submission, a cessation of confronting.

In this relating of interpersonal conflict are found the negative emotions mentioned by psychologists. Anger, fear, jealousy, rage are found in the vicious circle of human relating.

In such emotions as bewilderment, grief, despair the degree of spontaneity is too low to show the circular reactions of resistance.[50]

We have defined teaching as interaction of teacher with child, small group, or entire class. We believe the quality of the human environment is the most significant element in the classroom. Books and materials, growing plants and animals, trips outside the school, exhibits and demonstrations, all are needed, but the interpersonal relationship remains the essence of the educative process.

The role of the teacher is one that entails certain status and responsibility more or less defined by society.

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[50] Harold H. Anderson, Editor, Creativity and Its Cultivation (New York: Harper & Brothers Pub., 1959), pp. 130-131.

That role basically is one of arranging and maintaining an environment for human growth--for learning. It is incumbent upon the teacher to constantly seek, and to test the most tenable hypotheses available in regard to the learning environment. The quality of the human interaction in the classroom is the responsibility of the teacher. The power and status of the teacher means that what he says and the way he says it, what he does and the way he does it, set the stage, the action, and the feeling tone of children and teacher responding to one another. The respect for the individual child is demonstrated in the acceptance and elaboration of the child's ideas. It is demonstrated in the assistance given him so that he may get something he desires. It is demonstrated on occasions of empathy with him. It is demonstrated in the maintenance of a classroom that prevents the use of threat, sarcasm, and ridicule. Respect and acceptance given by the teacher to children does lead to respect and acceptance given by the child to him and to one another; in this way the quality of interaction is built into a "propitious" human environment.

In a society such as ours, the building of a "propitious" human environment has many facets. There are many things the child needs; for example, competence in the societal arts of reading, writing, and number being of primary importance. It is the teacher's responsibility to provide an environment where the desire and challenge to acquire them is furthered, and for a few children awakened. But each child must find a measure of success or the human environment is saying to him, "You are no good," "You are not worthy," and this is said to him at a time when he is too young to have the "memory of success" that leads to confidence in self.

The influence of the elementary school years cannot be overestimated. The Gluecks tell us in their monumental study on delinquency that ninety per cent of their subjects could be identified by eleven years of age.[51]

The belief of the Gluecks in the school is expressed in this manner:

> ... for though education may not completely account for the structuring of character and the motivation of conduct, it can give the student a sense of emotional satisfaction in the achievement of skills; it can arouse socially acceptable ambitions; it can put him into contact with persons with whom he can identify himself and whom he can strive to emulate. On the other hand, it can leave scars in the psyche of the growing child which may well be related to the development of antisocial attitudes and an ultimate defiance of all authority.[52]

We have noted previously the complexity of teaching and the decision-making power of the teacher. Grave indeed is his responsibility. Success for all children. Challenge for all children. It is only through the continued effort on the part of the teacher to understand the meaning of the situation to the child that he can discharge his responsibility to provide an environment for growth and learning. A British educator describes the learning situation in this manner:

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[51] Sheldon and Eleanor Glueck, Unraveling Juvenile Delinquency, published by the Commonwealth Fund, (New York: The Hildreth Press, Inc., 1950), pp. 285-286.

[52] Ibid., p. 135.

> ... learning is not a matter of mechanical responding to impressions received through drill, indoctrination or instruction. What is perceived is selective; and the selective process is sensitized by the whole situation as it appears to the learner. Some part is played by psychological equipment and by the independent variables of external stimulation. Much seems determined also by the subtle interrelationships of expectancy, of level of aspiration, and of a ubiquitous personal longing to see oneself as acceptable, participatory, and a member of the group to which one believes oneself to belong.[53]

Individual motivation arises from the combination of the inner and the outer forces operating on the person. For all, a sense of belonging and participation has significance. Fleming cites a series of sociometric studies from which he concludes that social acceptability is more closely associated with good school work than intelligence.[54]

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[53] C. M. Fleming, Teaching, A Psychological Analysis (New York: John Wiley and Sons, Inc., 1958), p. 134.

[54] Ibid., p. 234.

To maintain a teacher-learner situation that takes advantage of our increased insight regarding the role of perception in learning, the control now exercised over the child in the area of content must be lessened. The child must become more involved in the content because it has some personal meaning to him. A psychiatrist, who also happens to be a school board member, deplores the general confidence expressed in the making of scientists by the addition of more courses in science.

> But science is not a few courses, however advanced. Science is a way of life, a method of thinking, a devotion to work for the sake of finding solutions and a searching for an ever-expanding truth. Embryo scientists must learn this in the atmosphere of their schooling. Stimulation toward science will be found in a classroom milieu of free discussion, sharing of diverse views, encouragement toward independent thinking and even the expression of what to the adult may sound radical. In such an atmosphere curriculum is meaningful; in its absence no amount of course work can be considered as training for science. Because of the world we live in such training cannot be viewed as required for the elite few but must be offered all children if they are to be prepared for participating citizenship.[55]

One more word may be useful regarding the teacher in the role of mediator of the culture. This is an important role and one that we seldom found in the records of teachers.

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[55] Ralph D. Rabinovitch, "The Hazards of Being Human," The Nature of Being Human, Marie I. Rasey, ed. (Detroit: Wayne State University Press, 1959), p. 67.

In this role, the teacher performs functions of Regulate-Direction, Standard-Set, and Reprimand. These functions require the child to behave in a given way. When the teacher makes the reasons for these requirements public and such reasons are rooted in situational factors and in the conventions and rules of the larger society, the teacher is said to be acting in the role of _mediator of the culture_. It is also true that standards and values are transmitted more subtly. This role of _mediator of the culture_ is a difficult one to perform because the teacher may act less consciously because of his own uncritical and unconscious internalization of the standards and values of the culture. If the standards and values of a culture are transmitted too uncritically and in too rigid a manner, the culture cannot develop to a higher and more humanly satisfying form. There are some standards and values to transmit, but culturally imposed standards and values "set the limit of the child's differentiation or creativity [to] what the culture has already discovered and found acceptable."[56] What is desired is sufficient harmony with the group and larger social unit to permit constructive productivity on the part of the child, with the spontaneity and idiomatic character of his own uniqueness.

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[56] Anderson, _op_. _cit_., p. 138.

This concept of individual and group relationship may be viewed as an expression of our democratic values. We wish for each individual as much choice and autonomy as he can use without infringing on the welfare of others. Although, as a society, we haven't yet learned how to utilize the uniqueness of each individual, we do recognize uniqueness and differentiation as a human resource. In a world filled with problems the creative individual is prized. To foster creativity, a wider range of differences, wider range of mental processes, and a wider range of materials and activities must become acceptable to our schools.

To perform the professional task of the teacher of arranging and maintaining an environment that promotes learning, a human environment of the highest quality must be developed. A recent series of experiments done by Jack Gibb for the Office of Naval Research suggest two climates: one climate supportive of growth; the other climate a hindrance to growth. These climates are similar to the previous dominative and integrative environments of Anderson's which we presented at the beginning of this chapter. It is interesting that two men working with quite different subjects, school children and young adults, should arrive at the same description of conditions for human growth.

The Supportive Climate[57]

shared-problem-solving attitide →
acceptance →
empathy →
listening →

→ - defensiveness
→ + operant behavior
→ + growth
→ + catharsis
→ + perceptiveness
→ + acceptance and empathy

The Defensive Climate

advice giving →
censoring →
defense →
persuasion →
controlling →
punishing →

→ + defensiveness
→ + respondent behavior
→ - growth
→ - perceptiveness
→ - empathy

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[57] Jack R. Gibb, "Factors Producing Defensive Behavior Within Groups" (Annual Report prepared for the Group Psychology Branch Office of Naval Research, January 1 to November 15, 1957), p. 6. (Mimeographed)

These studies of Drs. Gibb and Anderson, among others,[58,59,60,61,62,63,64] have aided us in the process of redefining the professional role of the teacher. Our own study of classroom records, with the evidence of children's reactions, have led us to the conclusion that we cannot accept the major role as that of purveyor and tester of information. When books were few, the teacher was the main source of information. Now he is one source among many, and perhaps not even the best or the most economical source. We would, of course, hold that teachers should be

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[58] Morton Deutsch, "A Theory of Cooperation and Competition," Human Relations 2: (1949), pp. 129-152.

[59] Ronald Lippitt, Norman Polansky, and Sidney Rosen, "The Dynamics of Power; A Field-Study of Social Influence in Groups of Children," Human Relations 5: (1952), pp. 37-64.

[60] Ronald Lippitt and R. K. White, "Patterns of Aggressive Behavior in Experimentally Created 'Social Climates,' " Journal of Social Psychology 10: (1939), pp. 271-299.

[61] M. Sherif and C. W. Sherif, Groups in Harmony and Tension (New York: Harper and Brothers, 1953).

[62] B. O. Hughes, "Variability Among and Within Individuals in Relation to Education," Merrill-Palmer Quarterly 3: (1957), pp. 167-187

[63] W. C. Olson and B. O. Hughes, "Concepts of Growth--Their Significance to Teachers," Childhood Education 21: (1944), pp. 53-63.

[64] W. C. Trow, A. E. Zander, W. C. Morse and D. H. Jenkins, "Psychology of Group Behavior: The Class as a Group," Journal of Educational Psychology 41: (1950), pp. 322-338.

educated people with the habit of inquiry and well developed intellectual interests in some one of the great number of areas of life. Actually, it is reasonable to expect that all holders of bachelor degrees are educated people. What more is expected of the teacher? The teacher has a specific professional role to perform and that role was never so crucial as today. He has the responsibility for the _maintenance_ _of_ _favorable_ (propitious) _conditions_ _for_ _learning_ for each child and for the group as a whole. This professional role of the teacher suggests that he not be seduced by the sound of his own voice nor by the orderliness and system of his own field. Instead, he must be alert to the children and what they are doing, what and how they are thinking, and how they are feeling. To maintain a learning environment for them, what they want to know and why they want to know it become important. To help them learn is the primary job. The other side of the task is one of "opening windows," giving them glimpses of what might be, of other worlds to conquer. But this latter task is one of delicacy. How not to overwhelm children. How not to miss the rare opportunity. How not to press too hard. How to extend the work just far enough. The well known answer of the six year old who said, "But I don't want to know that much about penguins," is a warning. "Challenge with safety" is a phrase used by some writers.[65] A psychologist uses another phrase, "mastery and contentment."[66] Contentment is an aspect of safety--almost a kind of rest to gather forces to take the next leap. The term mastery is used in the sense of each human being reaching out to use all of his own powers. Lois Murphy calls attention to the differences in children. " 'Support' and 'love' were not what he [Colin] wanted in contrast to Alex and other children. Instead, he wanted help to be and to do what he wanted to do."[67] The child, Colin, was a doer and a builder. He wished to be big and achieve, and the aid his teachers could give him toward this end was the thing that furthered his growth. For all children there is some way to further their growth if we can find it. Supportive acts alone are not enough.

The arranging and maintaining of effective conditions for learning is a task requiring great skill and sensitivity. It is this role which differentiates the teacher from other educated people. Ralph Tyler emphasizes that the improvement needed in education is "quality of learning and not quantity. There will be less need for learning that calls for rote memorization and greater need for the kind of learning that probes for understanding and meanings."[68] This kind of "probing" occurs only in interaction. We have treated it several times in the discussion of Functions That Develop Content. Other thoughtful observers have concluded that the professional role of the teacher must be clearly and realistically defined in relation to our improved knowledge of how learning, intellectual and attitudinal growth, takes place.[69] The psychologist, Ernest Hilgard has made a comprehensive statement on learning on which most psychologists agree.[70] We have a sound basis for making new hypotheses and testing them in the classroom. Indeed, unless this is done, the lag between man's achievement in his understanding of the physical environment and his achievement in reaching his own potential as a human being will increase.

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[65] Alice Miel and Peggy Brogan, *More Than Social Studies* (New York: Prentice Hall, 1958).

[66] Charlotte Buhler, Faith Smitter, Sybil Richardson, *Childhood Problems and the Teacher* (New York: Henry Holt and Company, Inc., 1952).

[67] Lois Barclay Murphy, *Personality in Young Children* (New York: Basic Books, Inc., 1957), Vol. II, p. 236.

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[68] Ralph W. Tyler, "Conditions for Effective Learning," NEA Journal, (September 1959), p. 47.

[69] Earl C. Kelly and Marie I. Rasey, Education and The Nature of Man (New York: Harper and Brothers, Pub., 1952).

[70] Ernest R. Hilgard, Theories of Learning (New York: Appleton-Century-Crofts, Inc., 1956), pp. 485-487.

THE MODEL OF GOOD TEACHING

We shall now present the Model of Good Teaching within the framework of interaction which we have used as our definition of teaching. We reiterate our belief that the chief impact and influence of the teacher is at the point of interaction with a child or group.

What is good teaching? The teacher-learner situation in its complexity, its flow, and its multiple relationships requires creativity on the part of the teacher. If teaching may be described as decision-making in interaction, then the product of the teacher's decision is the response he makes to the child or group with whom he is interacting. When the response is not routine or stereotyped, it is creative. The occasion is never quite the same and won't be again. The effort made to understand and to respond within the meaning of a specific and unique child must be a creative act to be successful. The measure then of good teaching is the quality of the response the teacher makes to the child or group with whom he is interacting. It is the child who is reaching out, seeking, raising the questions, trying out his ideas.

How does the teacher respond so that he can be used as a resource by the child? To become a man of autonomy and initiative, to become a man with confidence in himself, the child needs to have opportunities to try himself out by initiating ideas and actions which are successful most of the time. This he can do only if the teacher makes the appropriate response. The responses of the teacher may include:

> giving the child support by telling him things are going along well, by assuring him that his is a good idea;
>
> giving him a direct answer to a question that he asks, or helping him locate the answer if it is not known by the teacher;
>
> giving him a chance to elaborate his idea by asking him more about it in a nonthreatening and nonevaluative manner;
>
> giving him an evaluation, either positive or negative, that points up specifically what is correct or incorrect; or by
>
> giving him a chance to relate to his own experience.

If the child is to become a man who is "open to his experience," a man who can encompass much of reality, then as a child me must relate positively to more people, things, and situations. The teacher's response to him must be such that he wants to reenter the situation. When failure is more or less continuous, one reduces his level of aspiration and oftentimes withdraws from the situation. Therefore, the teacher's response must include:

requiring from the child only that which he is capable of doing;

opening new possibilities to him without coercion;

withholding all sarcasm and ridicule;

interpreting to him the data in the situation of which he is aware.

If the child is to become a man who has positive feelings toward himself and cherishes uniqueness in others, then the teacher's response to him must respect his own individuality. Such responses may include:

giving the child some choice in what he is doing; for example, what he writes about, what he reads, the picture he paints;

expressing a belief in the child as a person;

listening to him;

accepting most of his ideas;

helping him gain competence in the things he cherishes.

If the child is to grow into a man who possesses highly developed communicative skills, he must have opportunity to talk and to listen to others. The teacher's responses must include:

seeking for his opinion and experience;

giving him an opportunity to use a variety of media of communication;

giving him a model of standard language usage;

providing him with a variety of books and other reading materials;

seeking to further his purposes in reading;

giving him opportunity to compare his reading with his new experience, to draw inferences and generalizations from his reading;

seeking the child's own idiomatic response in writing and other media of expression.

If the child is to grow into a man who acts with an attitude of social responsibility the teacher's responses must include:

setting of limits with him and for him;

clarifying standards with public criteria;

structuring the situation with clarity;

reprimanding with public criteria;

giving the child responsibility for others;

evaluating with discrimination.

Good teaching, then, requires appropriate responsiveness to the data the child and group are placing in the situation. It is in this way that the exploring and searching activities of the child or group can be rewarded properly. When their own seeking activities are rewarded, they become involved and commit themselves further to the activity. We believe: "The child's capacity to create new and challenging problems for himself is his most potent source of continuous growth and development."[71] It is his own desire for growth that makes possible the constructively creative man.

Good teaching requires a reduction in the controlling functions exercised continuously by teachers. We have shown how these controls extend to the exact wording of answers, to the minutia of a problem for attention. We have shown that the child's explorations in the way of looking ahead, of relating to his own experiences are usually crushed as the teacher restructures the child back into the narrow path laid out for him. The stereotyped and repetitive question and answer blocks children's use of higher mental processes. They recall and repeat; they do not synthesize or generalize.

The extensive and pervasive control under which children live in the classroom keeps them dependent and prevents them from full participation in the subject-matter (content) of the school.

Good teaching requires that the classroom be well managed so that the business of learning may receive full attention. This means that the teacher perform the functions of Controlling with clarity and with consistency. It does mean that in the position of teacher with its superior-subordinate relationship, the power component be ameliorated through relating the direction or the command to situational factors or to the larger society.

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[71] Manual Barkan, Foundations of Art Education (New York: Ronald Press, 1955).

It is quite probable that most teaching would be improved by the reduction of the present large number of controlling acts to one-third or one-half of what they now are.

Good teaching requires that the human environment be accepting of each individual, that in some way it tell him that he is important. This suggests that teachers not "pit" one group of children against another, but find ways to integrate the wide range of differences that are always present. It suggests a personal rapport between teacher and child. This personal rapport is built upon many little things. For example, the granting of a request other than routine says to the child, "I care for you. You count with me." Psychologists have noted that gratification in one area tends to instigate a feeling of well being that extends into other areas of an individual's life.[72]

Individual rapport is built through empathy and support from one who is a significant person in one's life.

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[72] Lois Barclay Murphy, Personality in Young Children (New York: Basic Books, Inc., 1957), Vol. II, Chapter XIV; and Bruno Bettleheim, Love is Not Enough (Glencoe, Ill.: Free Press, 1950).

It is developed with interpretation of reality that enriches or makes the situation more for one.

Good teaching keeps the interpersonal relationships supportive within the classroom. (See the Gibb Diagram on page 210.) There are common problems, concerns, and agreements because people have had a chance to talk and to listen to one another. There has been time to explore the opinions and wants of the group. Out of this, a shared-problem-solving attitude develops. To maintain a supportive climate the negative acts of sarcasm and threat must be abolished. A reduction in the number of admonishments and reprimands will make those used more effective, especially when they are linked to clearly stated situational factors.

The concept of functions performed in the classroom by the teacher in interaction makes it possible to relate action to the objectives toward which one is working.

The effects on children of the pattern of teaching functions to which they are subjected day after day and year after year are accumulative. Whether or not the "life space" permitted them in the classroom is sufficient to allow them to explore their own ideas, to solve problems of many kinds, to have some choice as to their own activities, makes a real difference in their own involvement in the subject-matter (content) of the school, in their attitude toward learning, and in their development of autonomy. Whether or not they are respected as individuals makes a difference in their development of confidence and positive self-concept.

What teachers do in the classroom makes a difference.

Good teaching requires that the teacher be a well educated, mature person who has the insight and energy for this demanding job. Every decision made in the classroom should be a considered one. This undoubtedly means a smaller number of students in each classroom. Growth is wavering and uneven as well as forward; it goes by leaps as well as crawls. The specifics for a growing child are not entirely predictable. To provide for the differences that are the hopes of each generation requires more than a textbook and a dictionary. It requires the responsive human environment that fosters exploration and initiative.

The Model as we now present it developed from our study of the 129 records of this study and the comprehensive records, including those from high school teachers, of the Provo Study. Through the study of these records, the functions teachers perform were identified. These functions were classified in seven categories: Controlling Functions; Imposition; Facilitating; Functions That Develop Content; Personal Responsiveness; Functions of Positive Affectivity; and Functions of Negative Affectivity.

The Model is presented in graphic form for greater ease in considering the relationship of one category to another. It will be noted in Figure 3 that the Model is presented as a series of shaded blocks. Each block represents a category of teacher functions and suggests the range of percentage for the category that may be considered good teaching.* Good teaching can never be considered a score or a point. If teaching is to be responsive to the children and the situation in which they are working, it must be flexible. Furthermore, teachers are people; they can be good teachers and have some differences in pattern of teaching acts.

The mean for the six best records of the 105 records from thirty-five teachers is graphed in Figure 3. (Two of these records are reproduced in full in Appendix E.) These six best records include every grade--kindergarten through sixth, except the second. The differences among the teachers can be observed easily from Figure 4. Their work, for the most part, fell within the Model. Table XXII presents the data in tabular form.

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*The percentage scale for each category:

Controlling Functions	20 - 40 per cent
Imposition	1 - 3 per cent
Facilitating	5 - 15 per cent
Content Development	20 - 40 per cent
Personal Response	8 - 20 per cent
Positive Affectivity	10 - 20 per cent
Negative Affectivity	3 - 10 per cent

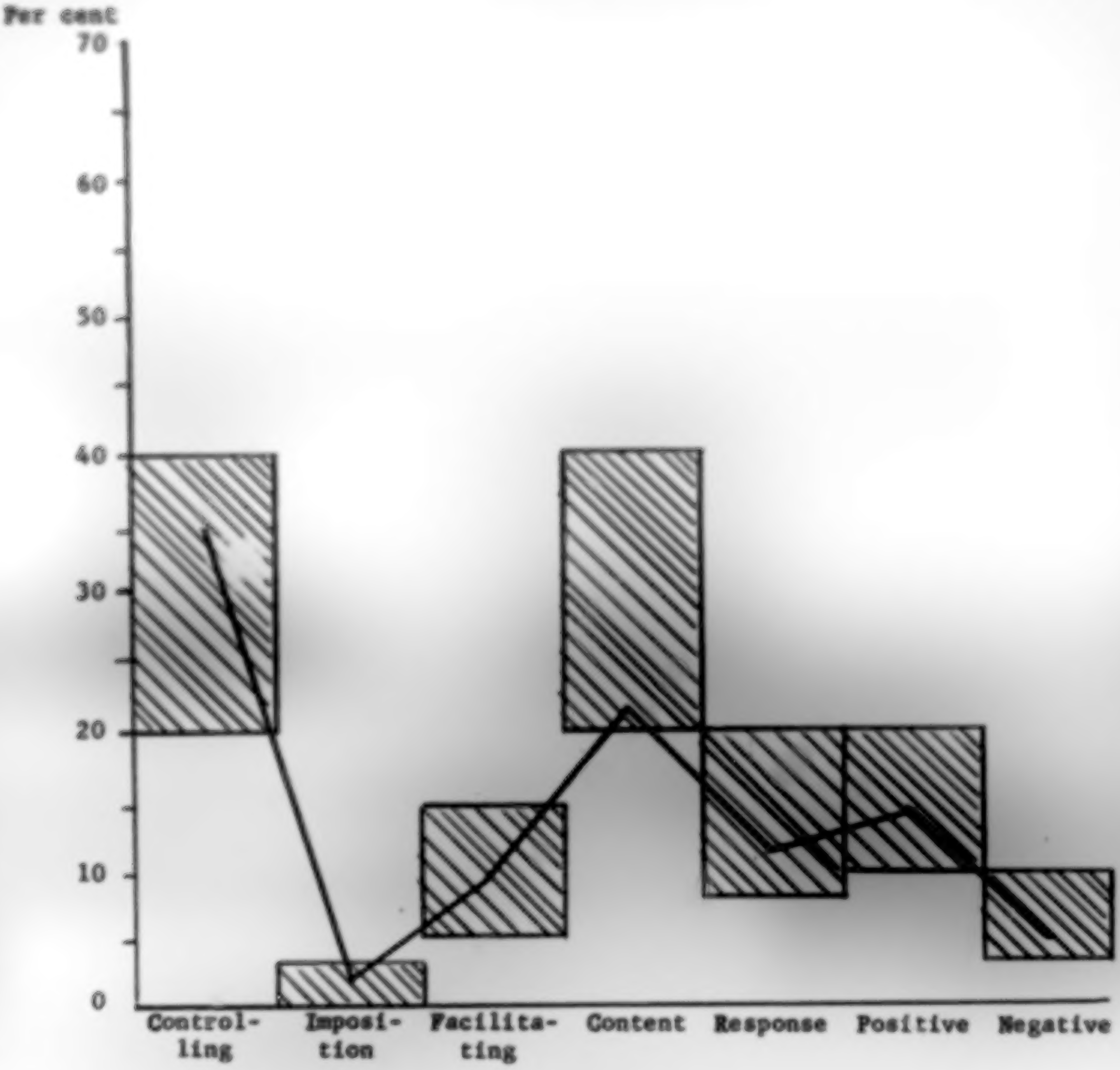
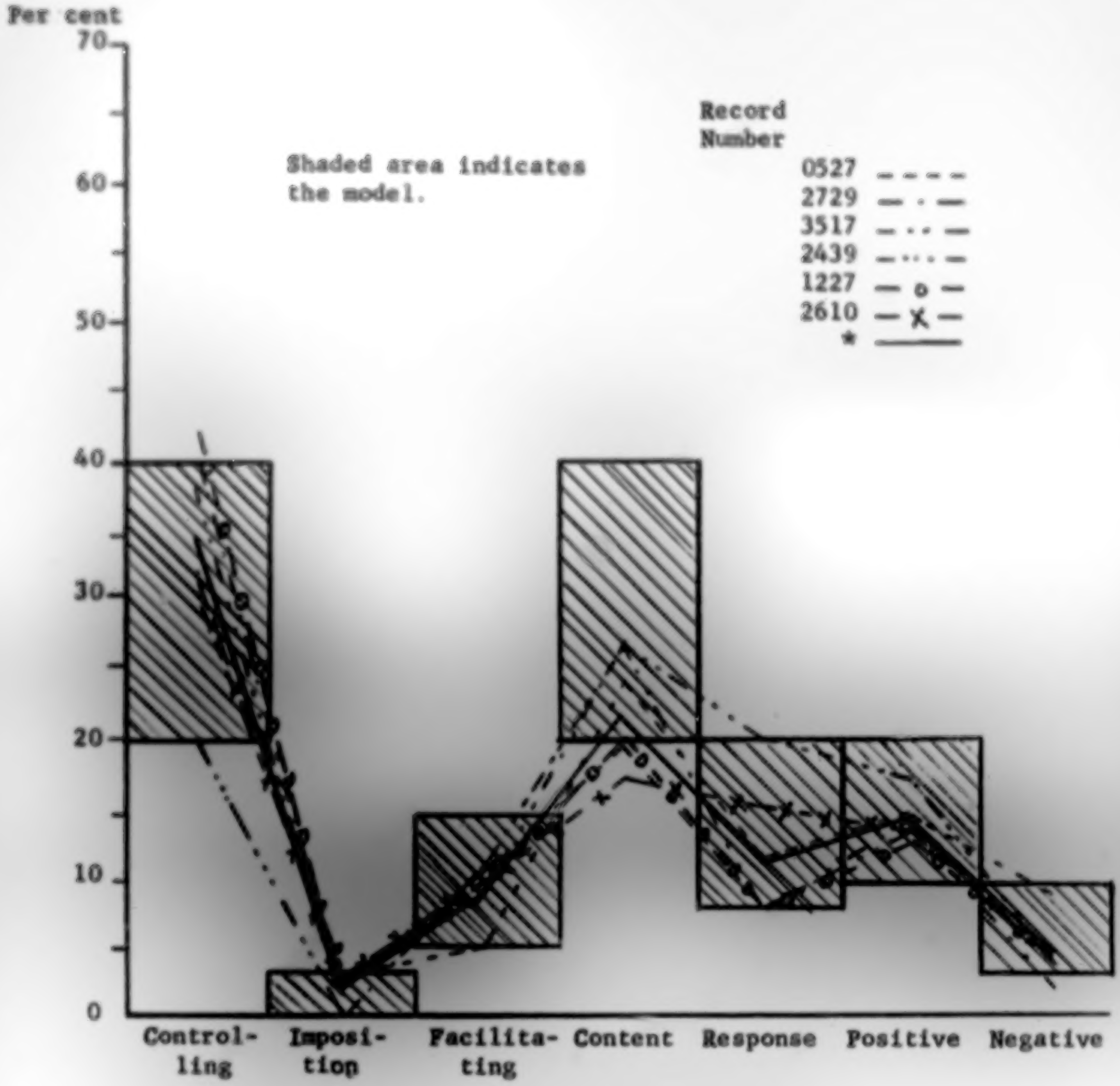


FIGURE 3

MODEL OF GOOD TEACHING EXPRESSED AS THE PERCENTAGE RANGE FOR EACH MAJOR FUNCTION WITHIN WHICH TEACHING ACTS SHOULD FALL AND THE MEAN OF THE SIX THIRTY-MINUTE RECORDS CONSIDERED TO BE NEAREST THE MODEL



* Indicates the mean of the six thirty-minute records considered to be nearest the model.

FIGURE 4

PATTERN OF TEACHING ACTS FOR SIX THIRTY-MINUTE TEACHING RECORDS CONSIDERED TO BE NEAREST TO THE MODEL

TABLE XXII

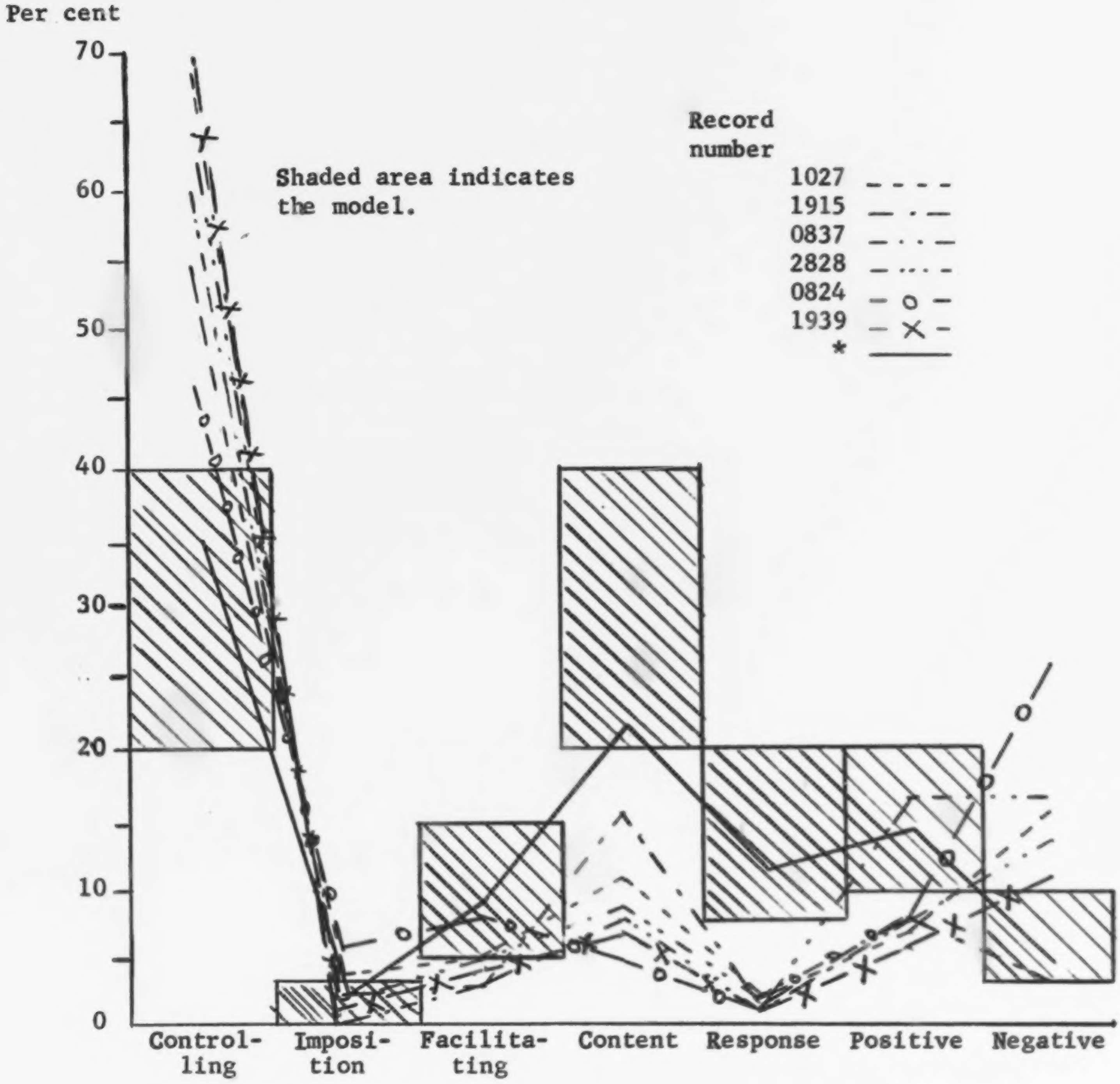
DISTRIBUTION OF TEACHING ACTS FOR SIX THIRTY-MINUTE TEACHING RECORDS CONSIDERED TO BE NEAREST TO THE MODEL

Record Number	Total Acts	Controlling		Imposition		Facilitating		Content		Response		Positive		Negative	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
0527	168	54	32	5	3	9	5	41	24	20	12	25	15	14	9
2729	338	134	40	8	2	37	11	66	20	28	8	50	15	15	4
3517	195	76	39	6	3	16	8	50	26	16	8	27	14	4	2
2439	208	41	20	2	1	23	11	55	26	41	20	37	18	9	4
1227	224	91	42	5	2	23	10	46	20	19	8	29	13	11	5
2610	221	77	35	7	3	21	10	37	17	36	16	32	14	11	5
*			35		2		9		22		12		15		5

*Indicates the mean of the six thirty-minute records considered to be nearest the model.

The dramatic differences between the six best records and the six records considered to be furthest from the Model are shown in Figure 5. Conspicuous are the large number of Controlling functions and those of Negative Affectivity. The lack of Personal Responsiveness and Positive Affectivity may be noticed. The pattern of Functions That Develop Content is below the Model as they are for most teachers, but for this group of records they are even fewer. The data for these six records are presented in Table XXIII.

The Model presented as it is in graphic form makes it relatively easy to determine the pattern of teaching functions for an individual teacher. The relationship of one category to another is quickly visable. For example, the teacher with the lowest number of controlling acts in Figure 5 has the highest number of Negative Affectivity. This indicates that the control lies in distinctly negative interaction. Likewise the teacher with the highest number of teaching acts in Controlling has acts of Negative Affectivity more than the Model. For this teacher high control is accompanied by a considerable number of acts of Negative Affectivity. It is the total pattern that is significant rather than a single score.



* Indicates the mean of the six thirty-minute records considered to be nearest the model.

FIGURE 5

PATTERN OF TEACHING ACTS FOR SIX THIRTY-MINUTE TEACHING RECORDS CONSIDERED TO BE FURTHEST FROM THE MODEL

TABLE XXIII

DISTRIBUTION OF TEACHING ACTS FOR SIX THIRTY-MINUTE TEACHING RECORDS CONSIDERED TO BE FURTHEST FROM THE MODEL

Record Number	Total Acts	Controlling		Imposition		Facilitating		Content		Response		Positive		Negative	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1939	342	238	70	4	1	14	4	25	7	5	1	20	6	36	11
0824	255	117	46	15	6	21	8	14	5	3	1	20	8	65	26
2828	305	188	62	6	2	9	3	23	8	4	1	38	12	37	12
0837	293	175	60	6	2	16	5	26	9	6	2	22	8	42	14
1915	315	218	69	1	0	11	3	49	16	2	1	24	8	10	3
1027	308	169	55	11	4	16	5	33	11	7	2	23	7	49	16
*			35		2		9		22		12		15		5

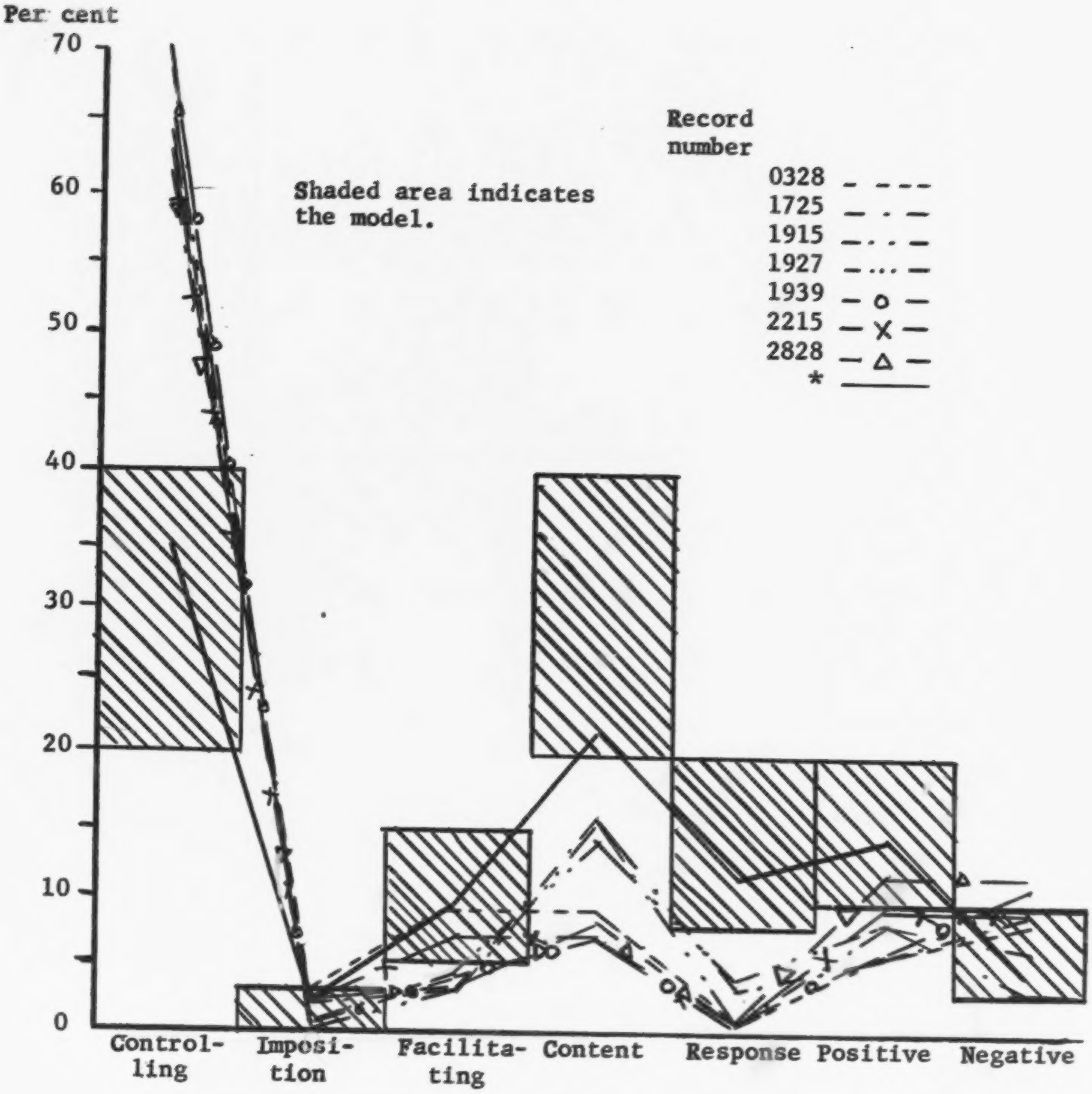
*Indicates the mean of the six thirty-minute records considered to be nearest the model.

Figure 6 shows the pattern of teaching acts for the seven records with controlling acts over sixty per cent of total acts. Even though this group of records were all very high in Controlling, a different pattern emerges in the group. Three of the records are higher in Development of Content with two of them showing more Personal Responsiveness than the others. Note that all of these records but two are below the Model in Positive Affectivity. Table XXIV presents these data in tabular form.

We have found the model useful as a reference point. Some few teachers do work with a pattern of teaching functions that fall within it. All teachers can attain a pattern of teaching functions that provides more respect for children; that gives them more "life space"; that invites them to use a wider range of mental processes; that gives them greater confidence to reach out into life.

Any teacher anywhere can begin to assess and evaluate, hypothesize and move into action to change the pattern of functions he now performs.

The next chapter presents the statistical analysis of the 105 records of teaching that comprise the major study of the project.



* Indicates the mean of the six thirty-minute records considered to be nearest the model.

FIGURE 6

PATTERN OF TEACHING ACTS FOR RECORDS WHERE THE CONTROLLING ACTS EXCEED SIXTY PERCENT

TABLE XXIV

DISTRIBUTION OF TEACHING ACTS FOR RECORDS WHERE THE CONTROLLING ACTS EXCEED SIXTY PER CENT

Record Number	Total Acts	Controlling No.	%	Imposition No.	%	Facilitating No.	%	Content No.	%	Response No.	%	Positive No.	%	Negative No.	%
0328	262	169	64	7	3	25	9	23	9	2	1	15	6	21	8
1725	282	174	61	5	2	8	3	47	16	8	3	16	6	24	9
1915	315	218	69	1	0	11	3	49	16	2	1	24	8	10	3
1927	288	189	65	4	1	10	4	40	14	10	4	24	8	11	4
1939	342	238	70	4	1	14	4	25	7	5	1	20	6	36	11
2215	286	179	63	7	2	19	7	22	7	2	1	29	10	28	10
2828	305	188	62	6	2	9	3	23	8	4	1	38	12	37	12
*			35		2		9		22		12		15		5

*Indicates the mean of the six thirty-minute records considered to be nearest the model.

CHAPTER VII

ASSESSMENT OF THE QUALITY OF ELEMENTARY TEACHING: A STATISTICAL ANALYSIS[73]

An important question that we proposed to answer was the question of actual differences among teachers. Another question we proposed to answer was whether or not there were differences between the Judged-good teachers and the Representative teachers.

The description of teaching we presented in Chapter V is a description of teaching as we found it. Ninety-nine of the records were from Judged-good teachers. Thirty of the records were from the ten Representative teachers, some of whom were, of course, good teachers. It will be recalled that the judgment of "good" was made by a central office staff that had access to a very large number of districts.

DIFFERENCES BETWEEN JUDGED-GOOD AND REPRESENTATIVE TEACHERS

A series of analyses of variance with teachers matched for grade were used to determine the differences between the

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[73] Procedures for statistical analysis from:

Quinn McNemar, _Psychological Statistics_ (New York: Chapman and Hall, 1955); Tukey's Procedure For Comparing Individual Means," in Allen L. Edwards _Statistical Methods For The Behavioral Sciences_ (New York: Rinehart and Co., 1958), pp. 330-335; and "Duncan's New Multiple Range Test," _Biometrics_ Vol. II, (1955), pp. 1-42.

Judged-good teachers from fourteen different schools and the ten Representative teachers drawn from one school. These data are presented in Tables XXV, XXVI, and XXVII. All analyses of variance result in significant differences between categories.

As may be observed from the tables cited above, there are no differences between these two groups of teachers. These results suggest that a range of criteria was used by administrative and supervisory personnel in their definition of good teaching so that no specific differences between the two groups were located.

Another way to interpret these findings is that teaching by and large is quite uniform in pattern and variability when examined from the standpoint of actual classroom behavior of teachers. It may be that only a very few teachers perform functions in the classroom that differentiate them from others.

DIFFERENCES BETWEEN PRIMARY AND INTERMEDIATE GRADE TEACHERS

Another question to be answered is whether or not differences may be found between eleven primary teachers (first and second) as a group, and eleven intermediate (fifth and sixth) grade teachers. The analysis of variance, presented in Table XXVIII shows that there are differences between the

TABLE XXV

ANALYSIS OF VARIANCE--JUDGED GOOD AND REPRESENTATIVE TEACHERS
(Matched For Grades Taught)

Source of Variation	Sum of Squares	df	Variance Estimate	F
Between Groups (Good and Representative)	2,176.45	1	2,176.45	.92
Between Ss on Same Groups	42,668.87	18	2,370.49	
Total Between Ss	44,845.32	19		
Between Categories	1,541,947.94	6	256,991.32	112.55*
Interaction: Groups x Categories	6,601.35	6	1,100.22	.48
Interaction: pooled Ss x Categories	246,594.13	108	2,283.28	
Total Within Ss	1,795,143.42	120		
Total	1,839,988.74	139		

*Significant at the .001 level.

TABLE XXVI

ANALYSIS OF VARIANCE--JUDGED GOOD AND REPRESENTATIVE TEACHERS (Matched For Grades Taught)

Source of Variation	Sum of Squares	df	Variance Estimate	F
Between Groups (Good and Representative)	3,580.46	1	3,580.46	1.51
Between Ss on Same Groups	42,578.24	18	2,365.46	
Total Between Ss	46,158.70	19		
Between Categories	1,559,426.49	6	2,593,237.75	1,696.51*
Interaction: Groups x Categories	7,361.34	6	1,226.89	.80
Interaction: pooled Ss x Categories	165,086.16	108	1,528.58	
Total Within Ss	1,731,873.99	120		
Total	1,778,032.69	139		

*Significant at the .001 level.

TABLE XXVII

ANALYSIS OF VARIANCE--JUDGED GOOD AND REPRESENTATIVE TEACHERS (Matched For Grades Taught)

Source of Variation	Sum of Squares	df	Variance Estimate	F
Between Groups (Good and Representative)	435.78	1	435.78	.21
Between Ss on Same Groups	37,984.95	18	2,110.27	
Total Between Ss	38,420.73	19		
Between Categories	1,457,002.59	6	242,833.76	168.81*
Interaction: Groups x Categories	1,616.87	6	269.48	.19
Interaction: pooled Ss x Categories	155,335.95	108	1,438.43	
Total Within Ss	1,613,955.41	120		
Total	1,652,376.14	139		

*Significant at the .001 level.

TABLE XXVIII

ANALYSIS OF VARIANCE--PRIMARY AND INTERMEDIATE TEACHERS

Source of Variation	Sum of Squares	df	Variance Estimate	F
Between Groups (Primary and Intermediate)	13,652.59	1	13,652.59	11.33**
Between Ss on Same Groups	24,103.85	20	1,205.19	
Total Between Ss	37,756.44	21		
Between Categories	1,997,445.91	6	332,907.65	203.48*
Interaction: Groups x Categories	37,631.00	6	6,271.83	3.83**
Interaction: pooled Ss x Categories	196,325.09	120	1,636.04	
Total Within Ss	2,231,402.00	132		
Total	2,269,158.44	153		

*Significant at the .001 level.

**Significant at the .01 level.

two groups at the .01 level of significance and there is significant interaction between the groups and the categories. A single classification analysis of variance was made with the seven categories of the Code and the total number of acts. The primary teachers are more controlling (.05), more negative (.01), and perform with a larger number of teaching acts (.01) for the ninety minute period of observation than are the intermediate grade teachers. Figure 7 presents the mean for each group of teachers agains that of the Model. The general pattern of teaching as we have found it appears to persist no matter how the grades are grouped. The data for eleven primary and eleven intermediate grade teachers are presented in Table XXIX.

DIFFERENCES WHEN TEACHING IS EXAMINED ACCORDING TO CONTENT

The number of teachers with comparable content vary according to the content.

33 teachers - Reading
23 teachers - Social Studies
25 teachers - Activity
15 teachers - Arithmetic

A single classification analysis of variance* was made for each of the content groupings. For no one of them are

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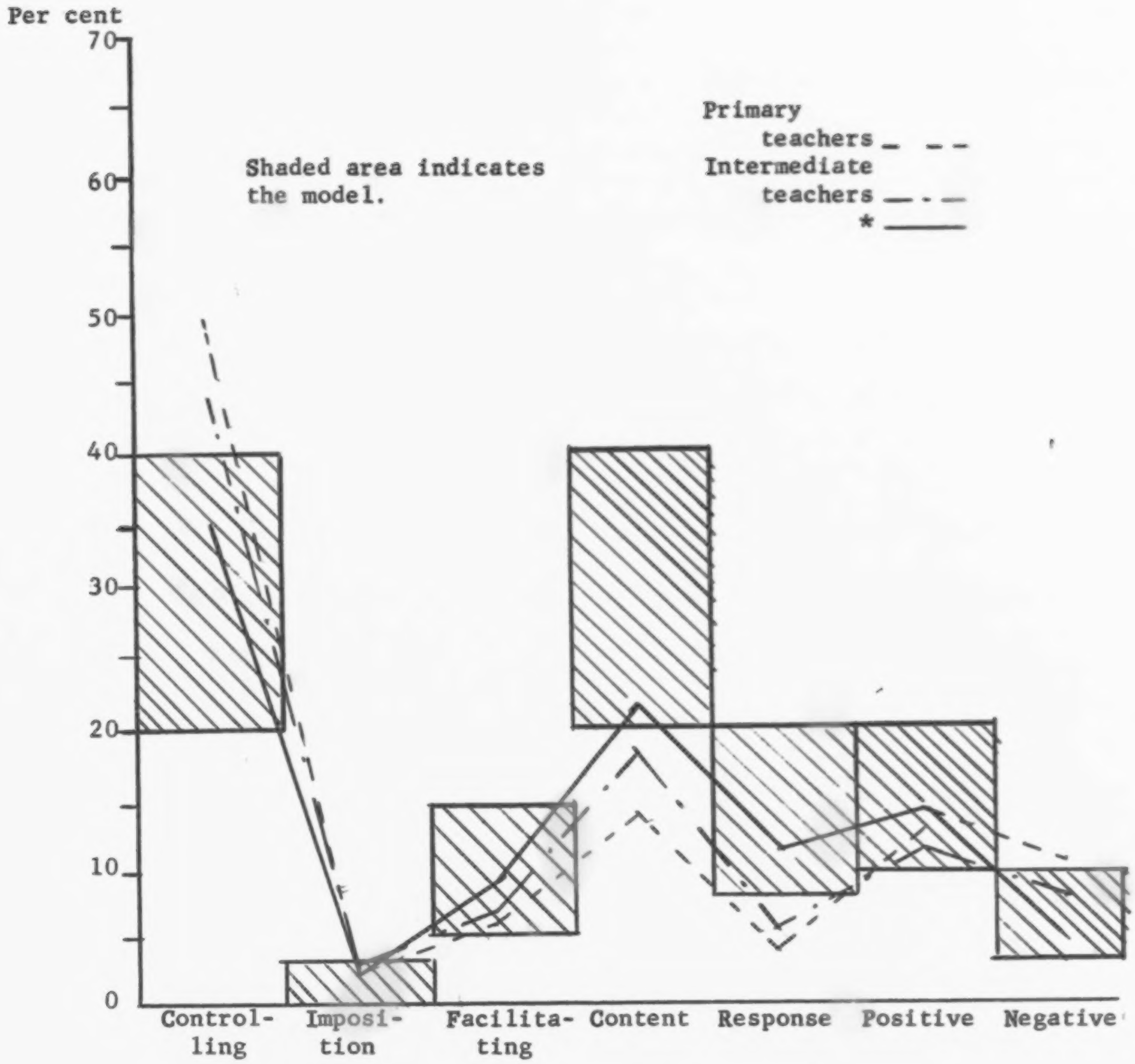
*Placed in Appendix F.



* Indicates the mean of the six thirty-minute records considered to be nearest the model.

FIGURE 7

PATTERN OF TEACHING ACTS FOR THE MEAN OF ELEVEN PRIMARY GRADE TEACHERS AND FOR ELEVEN INTERMEDIATE GRADE TEACHERS

TABLE XXIX

DISTRIBUTION OF TEACHING ACTS FOR ELEVEN PRIMARY GRADE TEACHERS AND FOR ELEVEN INTERMEDIATE GRADE TEACHERS*

Group	Total Acts	Controlling		Imposition		Facilitating		Content		Response		Positive		Negative	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Primary	9235	4649	50	222	2	589	6	1253	14	378	4	1155	13	989	11
Intermediate	7785	3680	46	234	3	570	7	1366	18	370	5	930	12	635	8
**			35		2		9		22		12		15		5

*Based on the total teaching acts for the three records for each teacher comprising ninety minutes.

**Indicates the mean of the six thirty-minute records considered to be nearest the model.

there differences between teachers, although the differences between categories are significant, as always, at the .001 level. Another way to look at the content of observation is to ask the question, "Do teachers differ in their patterns of teaching acts in periods of different content--that is, what differences are there between Reading, Social Studies, Activity, or Arithmetic?

A group of fifteen teachers had records with content in Reading, Social Studies and Activity periods. An analysis of variance, Table XXX, shows differences between content of observation and interaction between content and categories as well as interaction between categories and teachers. Application of Tukey's Test to the content means shows differences between Reading and Social Studies, between Social Studies and Activity, and between Reading and Activity. These data are important for several reasons; first, they do indicate some flexibility in pattern of teaching according to the situation. This is to be desired. Second, they suggest that several observations are necessary before a pattern of teaching functions can be established for any teacher.

With the interactions established, a series of analyses of variance were made with each large category. Table XXXI shows the data for Controlling Functions to be significant

TABLE XXX

ANALYSIS OF VARIANCE--READING, SOCIAL STUDIES, ACTIVITY[a]

Source of Variation	Sum of Squares	df	Variance Estimate	F
Situations[b]	3,602.79	2	1,801.40	6.88**
Categories	416,669.65	6	69,444.94	88.67*
Teachers	9,780.10	14		
Interaction: Sit. x Cat.	20,497.72	12	1,708.14	8.50*
Interaction: Sit. x Tch.	7,326.87	28	261.67	1.30
Interaction: Cat. x Tch.	65,786.35	84	783.17	3.90*
Interaction: Sit. x Cat. x Tch.	33,770.61	168	201.02	
Total	557,434.09	314		

*Significant at the .001 level.

**Significant at the .01 level.

[a] Fifteen teachers involved.

[b] Tukey's Test applied to means for Situations revealed significant gaps between each Situation:

Reading 286.87 — Social Studies 260.67 — Activity 228.80

sig. gap (Reading–Social Studies)   sig. gap (Social Studies–Activity)

TABLE XXXI

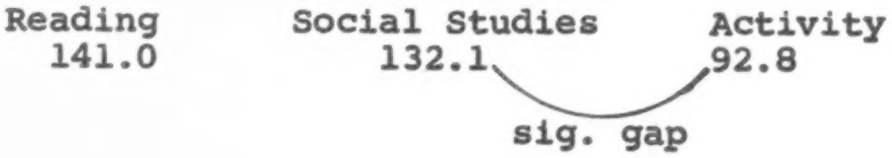
ANALYSIS OF VARIANCE--CONTROLLING FUNCTIONS READING, SOCIAL STUDIES, ACTIVITY

Source of Variation	Sum of Squares	df	Variance Estimate	F
Situations[b] (Columns)	19,742.87	2	9,871.44	9.94[*]
Teachers[a] (Rows)	58,453.80	14	4,175.27	4.20[*]
Remainder	27,813.93	28	993.36	
Total	106,010.60	44		

[*] Significant at the .001 level.

[a] Fifteen teachers involved.

[b] Tukey's Test applied to means for Situations revealed a significant gap between Reading or Social Studies and Activity, but not between Reading and Social Studies.



for situations and teachers. Application of Tukey's Test demonstrated that Controlling Functions are significantly less in the situation of Activity than in Reading or Social Studies. When Tukey's Test was applied to the means for teachers, one teacher is located significantly higher in Controlling Functions than all others. Duncan's Multiple Range Test showed three teachers significantly less Controlling than the others at the .05 level.

Table XXXII presents the data for Imposition. There are differences between situations and between teachers. Although Tukey's Test showed no significant gap, the ranked means of Reading 8.60, Activity 6.40, and Social Studies 4.67 shows Reading with most teaching acts in the category of Imposition.

The analysis of variance for Facilitating Functions demonstates no differences between situations or teachers. Table FV, in Appendix F, presents these data.

When we turn to Table XXXIII for the results on Content Development, we find no differences between teachers, but we do find less Content Development in the Activity period than for Reading and Social Studies. This finding is according to expectancy since, by definition, the Activity period is more a time for the expression of concepts already held and is

TABLE XXXII

ANALYSIS OF VARIANCE--TEACHER IMPOSITION READING, SOCIAL STUDIES, ACTIVITY

Source of Variation	Sum of Squares	df	Variance Estimate	F
Situations[b] (Columns)	116.57	2	58.28	5.11*
Teachers[a] (Rows)	401.07	14	28.65	2.51*
Remainder	319.39	28	11.41	
Total	837.03	44		

*Significant at the .05 level.

[a] Fifteen teachers involved.

[b] Tukey's Test applied to means for Situations revealed no significant gaps when means were ranked, but did show a significant difference in the use of Imposition between Reading and Social Studies.

Reading	Activity	Social Studies
8.60	6.40	4.67

Significant gap= 2.52

TABLE XXXIII

ANALYSIS OF VARIANCE--CONTENT DEVELOPMENT READING, SOCIAL STUDIES, ACTIVITY

Source of Variation	Sum of Squares	df	Variance Estimate	F
Situations[b] (Columns)	1,861.32	2	930.66	6.45*
Teachers[a] (Rows)	3,202.92	14	228.78	1.59
Remainder	4,040.09	28	144.29	
Total	9,104.33	44		

*Significant at the .01 level.

[a] Fifteen teachers involved.

[b] Tukey's Test applied to means for Situations revealed a significant gap between Reading or Social Studies and Activity, but not between Reading and Social Studies.

Social Studies	Reading	Activity
47.00	45.00	32.47

sig. gap

focused less on the building of concepts.

Table XXXIV on Personal Response shows no differences among teachers, but with Tukey's Test applied to the means for content, shows that teachers are more personally responsive in the Activity period than in Reading or Social Studies--significant at the .05 level.

The teachers' use of Functions of Positive Affectivity does not differ significantly from situation to situation but there are differences among teachers as shown in Table XXXV. Tukey's Test discloses no gaps; however, Duncan's Multiple Range Test shows one teacher using significantly more (.01) Functions of Positive Affectivity than approximately two-thirds of the other teachers and two teachers somewhat fewer than three of the other teachers (.05).

The teachers' use of Functions of Negative Affectivity differs for situations and among teachers as shown in Table XXXVI. Less Negative Affectivity accompanies Social Studies than the other two periods. The ranking of the means was Activity 30.33, Reading 24.53, and Social Studies 19.40. Duncan's Multiple Range Test shows that two teachers use a greater amount of Negative Affectivity than approximately one-fourth of the others, and three teachers are using less than all of the others.

It is of interest to note that the Duncan Multiple

TABLE XXXIV

ANALYSIS OF VARIANCE--PERSONAL RESPONSE READING, SOCIAL STUDIES, ACTIVITY

Source of Variation	Sum of Squares	df	Variance Estimate	F
Situations[b] (Columns)	603.98	2	301.99	5.18*
Teachers[a] (Rows)	1,310.18	14	93.58	1.60
Remainder	1,633.80	28	58.35	

*Significant at the .05 level.

[a] Fifteen teachers involved.

[b] Tukey's Test applied to means for Situations revealed a significant gap between Reading or Social Studies and Activity, but not between Reading and Social Studies.

Activity	Reading	Social Studies
17.93	10.33	10.00

sig. gap

TABLE XXXV

ANALYSIS OF VARIANCE--POSITIVE AFFECTIVITY READING, SOCIAL STUDIES, ACTIVITY

Source of Variation	Sum of Squares	df	Variance Estimate	F
Situations (Columns)	580.92	2	290.46	3.33**
Teachers[a] (Rows)	4,250.55	14	303.61	3.48*
Remainder	2,445.45	28	87.34	
Total	7,276.92	44		

*Significant at the .01 level.

**Not significant at the .05 level--3.34 required.

[a] Fifteen teachers involved.

6

TABLE XXXVI

ANALYSIS OF VARIANCE--NEGATIVE AFFECTIVITY READING, SOCIAL STUDIES, ACTIVITY

Source of Variation	Sum of Squares	df	Variance Estimate	F
Situations[b] (Columns)	897.56	2	448.78	5.48**
Teachers[a] (Rows)	6,722.31	14	480.16	5.86*
Remainder	2,293.45	28	81.91	
Total	9,913.32	44		

*Significant at the .001 level.

**Significant at the .01 level.

[a] Fifteen teachers involved.

[b] Tukey's Test applied to means for Situations revealed no significant gaps when means were ranked, but did show a significant difference in the Negative Affectivity identified in Activity and Social Studies.

Activity	Reading	Social Studies
30.33	24.53	19.40

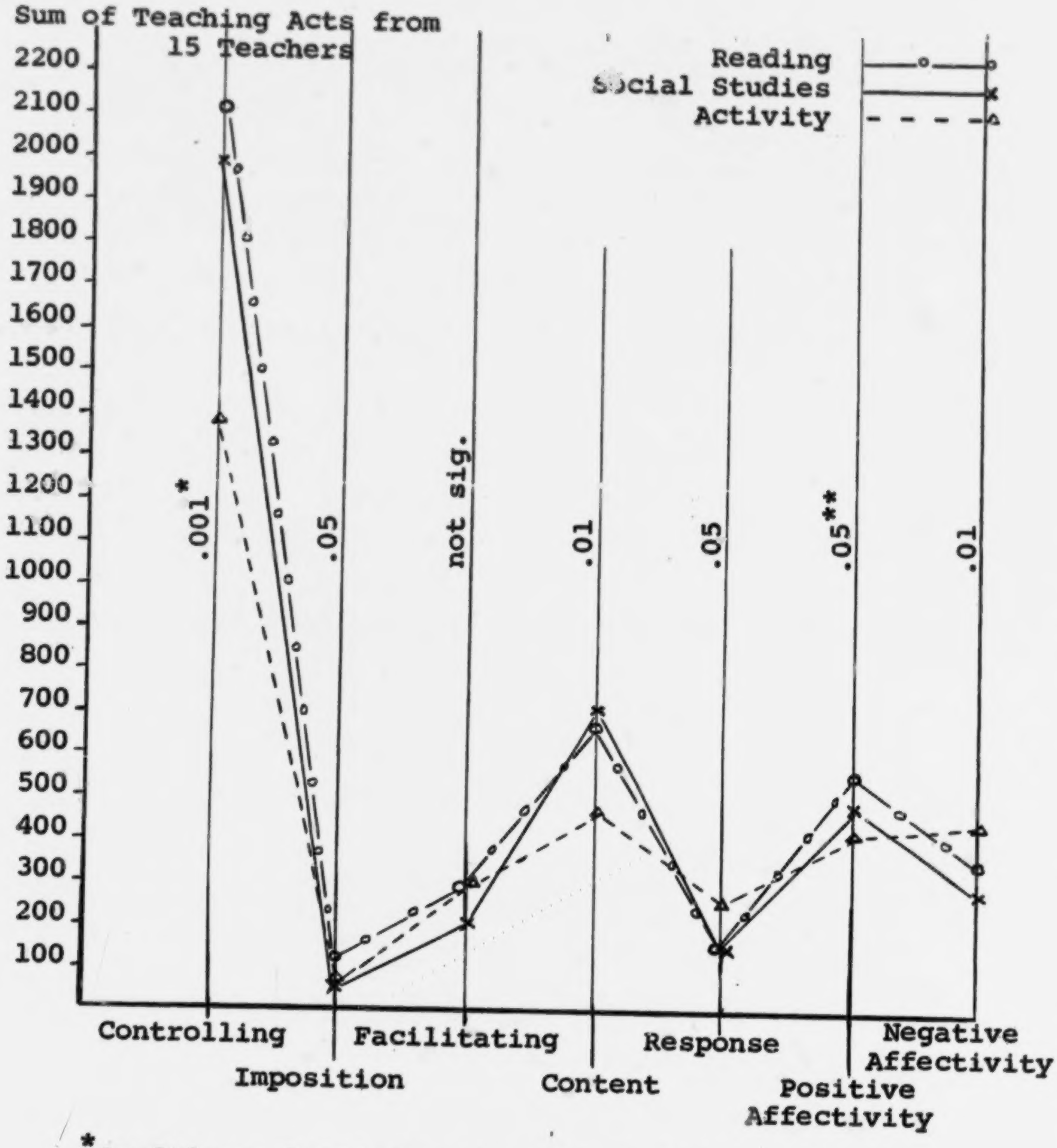
Significant gap = 6.77

Range Test discloses only a small number of teachers that differ significantly from the others. One conclusion might be that teaching, at least as we found it, is remarkably similar in the pattern of functions teachers perform in the classroom although that pattern differs somewhat according to the content that is the focus of the period. Perhaps it is not surprising to find less use of Controlling Functions and more use of Functions of Personal Responsiveness in the Activity period. Nor is it surprising to find more Functions of Content Development in Reading and Social Studies periods than in the Activity period. It is not difficult to see that the Activity period with the children's use of a variety of materials accompanied by considerable physical movement might elicit more acts of Reprimand and Admonishment which are acts of Negative Affectivity. However, why should Reading elicit so many teaching acts of Negative Affectivity?

The general use of Functions of Positive Affectivity are attested to with no differences found among situations.

Figure 8 presents the data on situations, Reading, Social Studies, and Activity in graphic form.

There are nine teachers with comparable situations of Reading, Arithmetic and Activity. Table XXXVII presents these data. There are significant differences among these situations



*Confidence level for significant difference.

**F obtained was 3.33 with 3.34 required for significant difference at the .05 level.

FIGURE 8

ANALYSIS OF VARIANCE--INTERACTION: SITUATION X CATEGORY

TABLE XXXVII

ANALYSIS OF VARIANCE--READING, ARITHMETIC, ACTIVITY

Source of Variation	Sum of Squares	df	Variance Estimate	F
Situations[b]	2,481.51	2	1,240.76	5.29*
Categories	251,675.26	6	41,945.88	113.44**
Teachers[a]	4,641.83	8		
Interaction: Sit. x Cat.	28,535.27	12	2,377.94	8.80**
Interaction: Sit. x Tch.	3,752.26	16	234.52	.87
Interaction: Cat. x Tch.	17,747.92	48	369.75	1.37
Interaction: Cat. x Sit. x Tch.	25,937.42	96	270.18	
Total	334,771.47	188		

*Significant at the .05 level.

**Significant at the .01 level.

[a] Nine teachers involved.

[b] Tukey's Test applied to means for Situations revealed significant gaps between each Situation:

Arithmetic	Reading	Activity
292.11	264.67	230.11

sig. gap   sig. gap

with interaction between observations and categories. The activity period is the situation that elicits the difference in pattern of teaching acts with less Controlling Functions used by teachers and more use of Functions of Personal Response.

Evidence presented shows there are differences in teaching patterns according to the content of the situation recorded. The activity period proves to be most deviate among the content of Reading, Social Studies, Arithmetic and Activity periods.

DIFFERENCES AMONG TEACHER GROUPS WHEN SEGREGATED ACCORDING TO DEVIATIONS FROM THE MODEL

As previously reported there are no differences between the original Judged-good teachers and the Representative teachers. It seemed desirable, with the Model and the mean of the six best records as a reference point, to rank the thirty-five teachers according to deviation from that mean. Accordingly, we have three groups of nine teachers: the nine with least deviation from the mean of the six best records; the nine with the most deviation from the mean; and the nine in the middle with four teachers on either side separating them from those with the least and the most deviation from the mean of the six best records. The groups according to grade distribution are:

Grade	Kdgn.	First	Second	Third	Fourth	Fifth	Sixth
"Good" Group	-	-	2	2	2	1	2
"Middle" Group	1	-	1	2	1	3	1
"Poor" Group	-	3	2	1	1	2	-

The distribution of grades in each grouping, "good," "middle," and "poor," appear to be about the same. It is of interest to note that two members of the "good" group are from the Representative teachers. After this grouping was made, the question was: Are these groups significantly different from one another? The selection of the groupings is, of course, within the closed system of the mean of the best records, with four of the nine teachers each represented by one record among the six best records. Even so, the question of whether or not the alleged differences are significant appears appropriate. An analysis of variance was performed on each of the seven categories and for total teaching acts.

The data for Controlling may be read in Table XXXVIII. The "good" and "middle" groups are significantly less (.01) Controlling than the "poor" group, with the "good" group

TABLE XXXVIII

ANALYSIS OF VARIANCE--CONTROLLING FUNCTIONS GOOD, MIDDLE, AND POOR TEACHERS

Source of Variation	Sum of Squares	df	Variance Estimate	F
Between Groups	74,453.58	2	37,226.79	5.95*
Within Groups	150,064.50	24	6,252.69	
Total	224,518.08	26		

*Significant difference at .01 level.

TABLE XXXIX

ANALYSIS OF VARIANCE--CONTENT DEVELOPMENT GOOD, MIDDLE, AND POOR TEACHERS

Source of Variation	Sum of Squares	df	Variance Estimate	F
Between Groups	9,702.18	2	4,851.09	6.06*
Within Groups	19,220.47	24	800.85	
Total	28,922.65	26		

*Significant difference at .01 level.

having a somewhat smaller mean although not significantly different from the "middle" group. The respective means are 306.2, 334.8, and 429.1.

The analyses of variance for Imposition and Facilitating demonstrate no differences between the groups. (Tables are in Appendix F.)

The differences in the use of Functions That Develop Content are significant at the .01 level. (Table XXXIX) Application of Tukey's Test reveals no significant gap. The "good" group is superior to the "poor" group. The respective means for the three groups are 142.2, 116.4, and 95.9.

The differences in Personal Response are significant at the 05 level between the "good" and the "middle" groups. There are no differences between the "middle" and the "poor" groups. Data are in Table XL. The respective means are 45.1, 32.2, and 26.9.

No differences are found between the groups in the category of Positive Affectivity. This is in line with the total finding that most teachers are pleasant and kind to children. (Appendix F)

The differences between the groups on Negative Affectivity are between the "good" and the "poor" at the .05 level of significance. These data are found in Table XLI.

TABLE XL

ANALYSIS OF VARIANCE--RESPONSIVENESS GOOD, MIDDLE, AND POOR TEACHERS

Source of Variation	Sum of Squares	df	Variance Estimate	F
Between Groups	1,579.98	2	789.99	4.75*
Within Groups	3,989.29	24	166.22	
Total	5,569.27	26		

*Significant difference at .05 level.

TABLE XLI

ANALYSIS OF VARIANCE--NEGATIVE AFFECTIVITY GOOD, MIDDLE, AND POOR TEACHERS

Source of Variation	Sum of Squares	df	Variance Estimate	F
Between Groups	7,801.14	2	3,900.57	3.88*
Within Groups	24,129.98	24	1,005.42	
Total	31,931.12	26		

*Significant difference at .05 level.

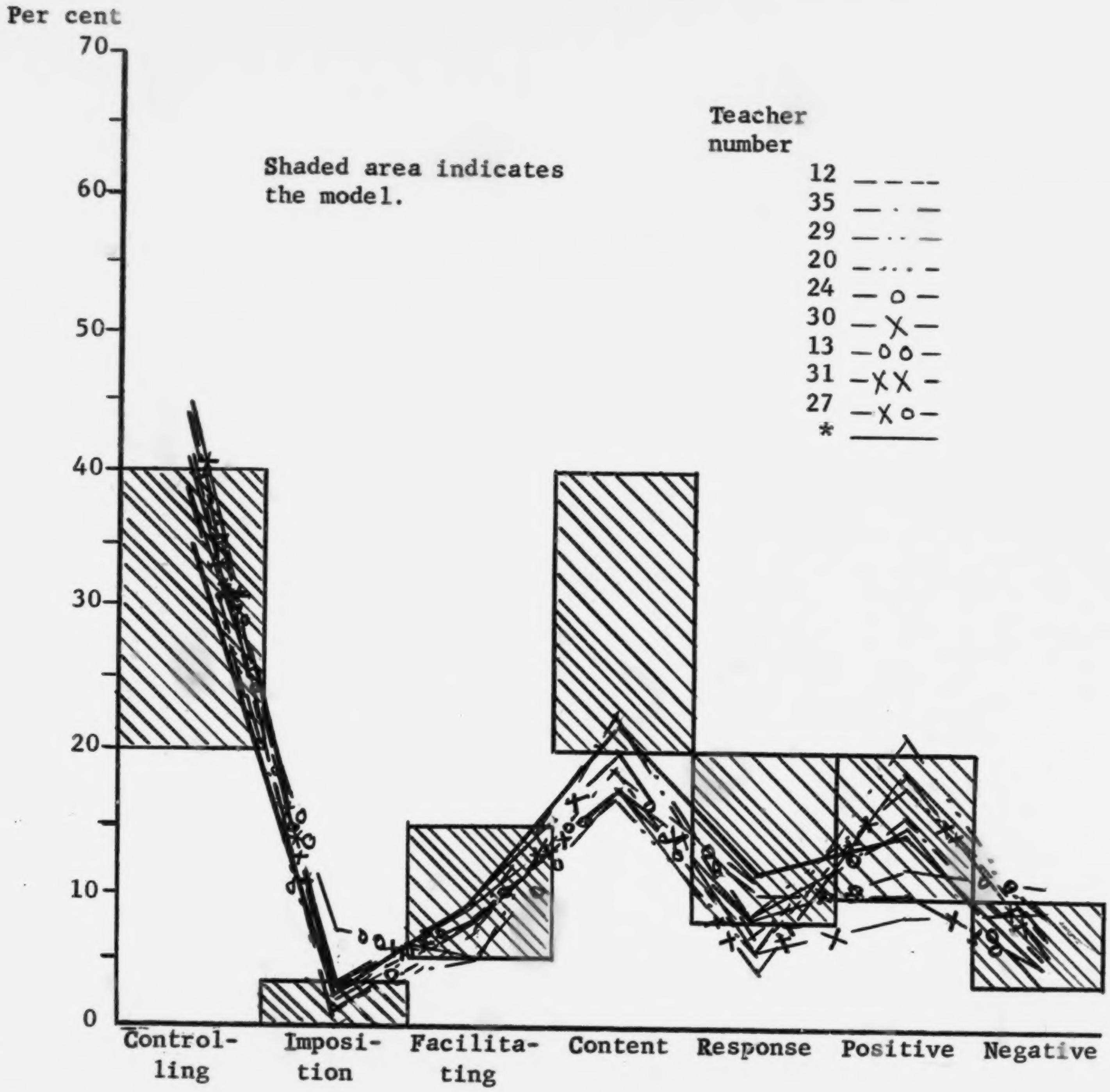
The pattern of teaching acts for each of the three groups are shown graphically in Figures 9, 10, and 11. It is of interest to note that the "spread" within the three groups of teachers increases; the "good" teachers being closer together in their profiles than the "poor" teachers. This is an area to explore further since our numbers are very small; also, the selection process of smallest deviation from the mean of the six best records is an artifact that influenced the "closeness" of teaching profiles for those nearest the Model.

The data in tabular form for the three groups are given in Tables XLII, XLIII, and XLIV.

The differences in the groups on total number of teaching functions performed are not significant. (Appendix F)

DIFFERENCES AMONG THE THIRTY FIVE TEACHERS ON EACH OF THE MAJOR CATEGORIES

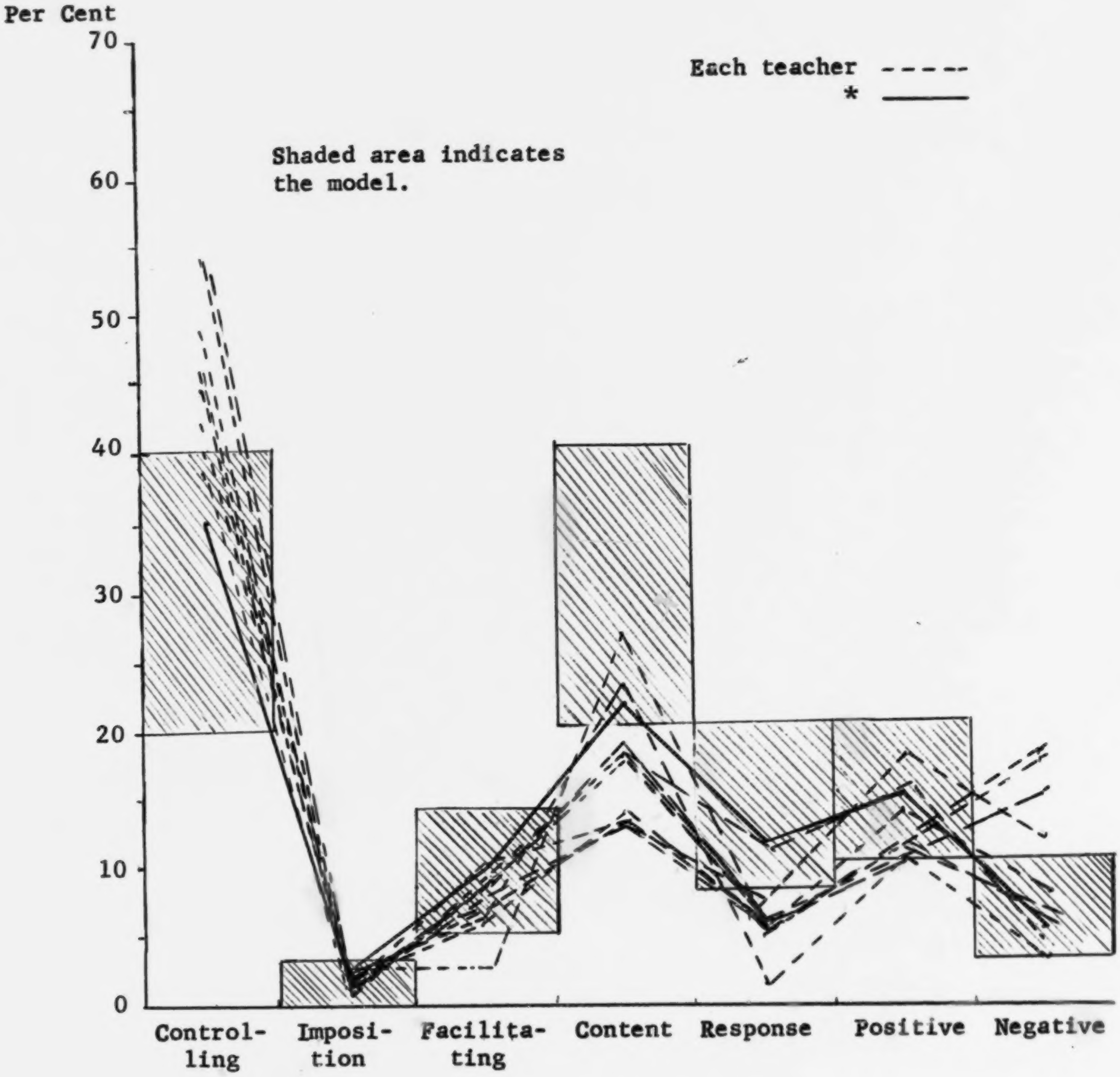
An effort was made to determine the degree to which teachers differ from one another on each of the seven categories based on the total ninety minutes of observation. This analysis attempts to analyze the differences among the thirty-five teachers without reference to content of situation, since the content is randomized when the analysis is made using order of observation. (Appendix B, Table BIII)



* Indicates the mean of the six thirty-minute records considered to be nearest the model.

FIGURE 9

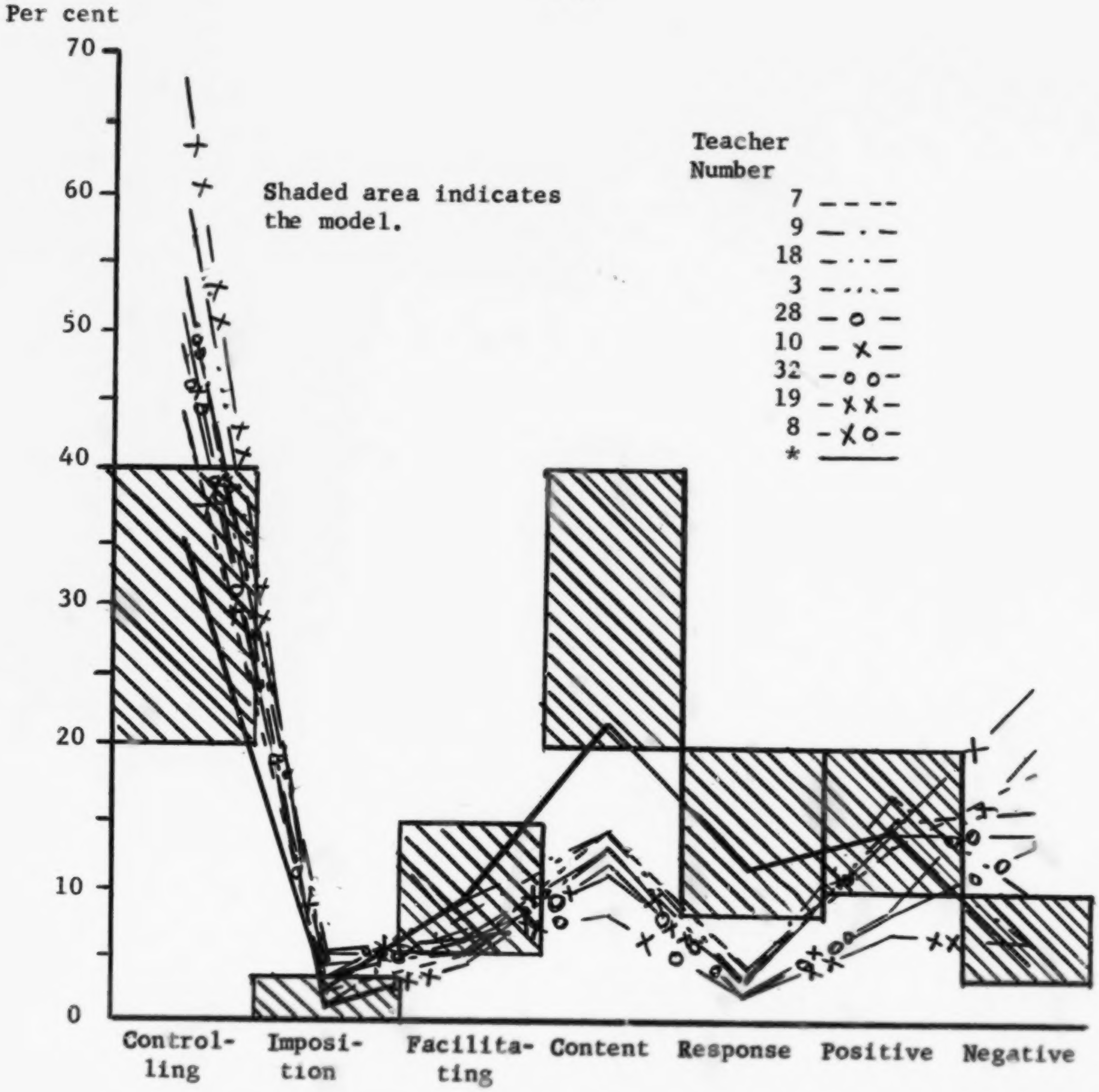
PATTERN OF TEACHING ACTS FOR TWENTY-FIVE PER CENT OF THE TEACHERS CONSIDERED NEAREST THE MODEL BASED UPON THE MEAN OF THE THREE THIRTY-MINUTE RECORDS



* Indicates the mean of the six thirty-minute records considered to be nearest the model.

FIGURE 10

PATTERN OF TEACHING ACTS FOR TWENTY-FIVE PER CENT OF THE TEACHERS CONSIDERED TO REPRESENT A MIDDLE POSITION WITH REFERENCE TO THE MODEL EACH BASED UPON THE MEAN OF THE THREE THIRTY-MINUTE RECORDS



* Indicates the mean of the six thirty-minute records considered to be nearest the model.

FIGURE 11

PATTERN OF TEACHING ACTS FOR TWENTY-FIVE PER CENT OF THE TEACHERS CONSIDERED FURTHEST FROM THE MODEL EACH BASED UPON THE MEAN OF THE THREE THIRTY-MINUTE RECORDS

TABLE XLII

DISTRIBUTION OF TEACHING ACTS FOR THE TWENTY-FIVE PER CENT OF THE TEACHERS CONSIDERED NEAREST THE MODEL*

Teacher Number	Total Acts	Controlling		Imposition		Facilitating		Content		Response		Positive		Negative	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
12	840	348	41	12	1	57	7	158	19	53	6	155	19	57	7
35	558	243	44	13	2	46	8	128	23	38	7	63	11	27	5
29	812	318	39	24	3	41	5	191	23	23	3	144	18	71	9
20	847	331	39	20	2	69	8	140	17	50	6	177	21	60	7
24	661	291	44	6	1	54	8	116	18	71	11	102	15	21	3
30	891	399	45	31	3	81	9	174	20	53	6	75	8	78	9
13	622	245	39	40	7	31	5	112	18	52	8	75	12	67	11
31	665	271	41	22	3	50	8	119	18	24	4	129	19	50	7
27	923	415	45	27	3	81	9	170	18	89	10	96	10	45	5
**			35		2		9		22		12		15		5

*Based on total teaching acts for the three records comprising 90 minutes.

**Indicates the mean of the six thirty-minute records considered to be nearest the model.

TABLE XLIII

DISTRIBUTION OF TEACHING ACTS FOR TWENTY-FIVE PER CENT OF THE TEACHERS CONSIDERED TO REPRESENT A MIDDLE POSITION WITH REFERENCE TO THE MODEL*

Teacher Number	Total Acts	Controlling No.	Controlling %	Imposition No.	Imposition %	Facilitating No.	Facilitating %	Content No.	Content %	Response No.	Response %	Positive No.	Positive %	Negative No.	Negative %
16	754	363	48	20	3	24	3	199	26	25	4	85	11	38	5
11	734	308	42	7	1	55	8	102	14	40	5	124	17	98	13
33	736	329	45	23	3	59	8	132	18	27	4	92	12	74	10
15	546	214	39	14	2	35	7	101	19	23	4	60	11	99	18
34	792	418	53	18	2	58	7	179	23	19	2	75	10	25	3
23	781	310	40	15	2	80	10	112	14	38	5	87	11	139	18
24	661	291	44	6	1	54	8	116	18	71	11	102	15	21	3
4	626	333	53	21	3	36	6	85	14	27	4	81	13	43	7
22	745	343	46	18	2	48	6	111	15	28	4	82	11	115	16
**			35		2		9		22		12		15		5

*Based on total teaching acts for the three records comprising 90 minutes.

**Indicates the mean of the six thirty-minute records considered to be nearest the model.

TABLE XLIV

DISTRIBUTION OF TEACHING ACTS FOR THE TWENTY-FIVE PER CENT OF THE TEACHERS CONSIDERED FURTHEST FROM THE MODEL*

Teacher Number	Total Acts	Controlling		Imposition		Facilitating		Content		Response		Positive		Negative	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
7	780	337	44	16	2	41	5	112	14	29	4	103	13	142	18
9	899	481	53	14	1	69	8	125	14	24	3	91	10	95	11
18	907	479	53	35	4	44	5	121	13	27	3	108	12	93	10
3	784	438	56	23	3	72	9	108	14	28	4	68	9	47	6
28	747	367	49	24	3	43	6	83	11	25	3	105	14	100	14
10	739	322	44	38	5	46	6	96	13	26	4	70	9	141	19
32	854	459	54	40	5	42	5	115	13	17	2	72	8	109	13
19	945	645	68	9	1	35	4	114	12	17	2	68	7	57	6
8	726	368	51	23	3	54	7	57	8	20	3	60	8	144	20
**			35		2		9		22		12		15		5

*Based on total teaching acts for the three records comprising ninety minutes.

**Indicates the mean of the six thirty-minute records considered to be nearest the model.

It may be noted at this point that the application of Tukey's Test discloses no significant gap between teachers on any of the seven categories; therefore, Duncan's Multiple Range Test was applied to the data on each category and, where the data appear meaningful, are reported.

The data for the thirty-five teachers indicate that there are not significant differences in Controlling when the content of the situation is randomized.

The data for Imposition shows differences among teachers at the .05 level of significance. Table XLV presents these data. Duncan's Multiple Range Test discloses that two teachers use more Imposition than approximately one-third of the teachers.

The data for the use of Facilitating Functions show no differences among the teachers. (Appendix F)

The data for Content Development show differences among teachers at the .01 level of significance.* The range of teaching acts in this category is very large. The teachers with the highest number perform over four times as many Functions of Content Development than did the teacher with the lowest number. The question arises as to the relationship of grade taught to teachers' use of Functions That Develop Content.

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*Table XLVI

TABLE XLV

ANALYSIS OF VARIANCE--IMPOSITION (Order of Observation x Teachers[a])

Source of Variation	Sum of Squares	df	Variance Estimate	F
Order of Obs. (Columns)	.74	2	.37	.02
Teachers (Rows)	857.90	34	25.23	1.64*
Remainder	1,047.51	68	15.40	
Total	1,906.15	104		

*Significant difference at .05 level.

[a] Thirty-five teachers involved.

TABLE XLVI

ANALYSIS OF VARIANCE--CONTENT DEVELOPMENT (Order of Observation x Teachers[a])

Source of Variation	Sum of Squares	df	Variance Estimate	F
Order of Obs. (Columns)	56.44	2	28.22	.16
Teachers (Rows)	15,008.32	34	441.42	2.57*
Remainder	11,680.20	68	171.77	
Total	26,744.96	104		

*Significant difference at .01 level.

[a] Thirty-five teachers involved.

Table XLVII may be read as a kind of "scattergram." There appears to be little relationship of grade to teachers' use of Functions That Develop Content.

TABLE XLVII

MEAN NUMBER OF TEACHING ACTS IN THE CATEGORY OF FUNCTIONS THAT DEVELOP CONTENT FOR THIRTY-FIVE TEACHERS
(Three Thirty-Minute Records)

Grade	Number of Acts	Grade	Number of Acts	Grade	Number of Acts
Sixth	66.3	Second	41.7	Third	34.0
Second	63.7	First	40.7	Fifth	33.7
Sixth	59.7	First	40.3	Third	32.0
Third	58.0	Sixth	39.7	Kdgn.	30.7
First	56.7	Fifth	38.7	Fifth	28.3
Third	52.7	Fifth	38.3	Second	27.7
Sixth	47.3	First	38.0	First	25.0
Second	46.7	First	37.3	Fifth	23.3
Second	44.7	Fourth	37.3	Kdgn.	22.3
Fifth	44.0	Fourth	37.3	First	19.0
Fourth	42.7	Third	37.0	Fourth	19.0
First	41.7	Fifth	36.0		

The data on Response for the thirty-five teachers show no significant differences. (Appendix F)

The data on Positive Affectivity in Table XLVIII show that teachers differ at the .001 level of significance. One teacher is significantly lower than one-third of the others in the use of Functions of Positive Affectivity. Two teachers were higher than approximately two-thirds of the rest.

The same difference exists in teacher's use of Functions of Negative Affectivity. These data are presented in Table XLIX.

Four teachers use Functions of Negative Affectivity significantly more than approximately two-thirds of the teachers, and five teachers use significantly fewer Functions of Negative Affectivity than approximately one-third of the teachers, according to Duncan's Multiple Range Test. It is not surprising to find the thirty-five teachers differing among themselves in these two categories of Negative and Positive Affectivity that may reflect one's general orientation to life instead of expressing essentially the teacher role.

The analysis of variance computation for differences in total number of teaching acts performed in the ninety minutes of observation discloses no difference in order of observation but shows differences between teachers at the .05 level of significance.* Duncan's Multiple Range Test shows four teachers with total number of teaching acts significantly less than approximately one-third of the teachers.

As reported in Chapter V, a Dominative Behavior Index

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*Table L.

TABLE XLVIII

ANALYSIS OF VARIANCE--POSITIVE AFFECTIVITY (Order of Observation x Teachers[a])

Source of Variation	Sum of Squares	df	Variance Estimate	F
Order of Obs. (Columns)	105.62	2	52.81	.54
Teachers (Rows)	10,330.50	34	303.84	3.13*
Remainder	6,607.69	68	97.17	
Total	17,043.81	104		

*Significant difference at .001 level.

[a] Thirty-five teachers involved.

TABLE XLIX

ANALYSIS OF VARIANCE--NEGATIVE AFFECTIVITY (Order of Observation x Teachers[a])

Source of Variation	Sum of Squares	df	Variance Estimate	F
Order of Obs. (Columns)	600.16	2	300.08	3.23*
Teachers (Rows)	13,473.12	34	396.27	4.26**
Remainder	6,325.07	68	93.02	
Total	20,398.35	104		

*Significant difference at .05 level.

**Significant difference at .001 level.

[a] Thirty-five teachers involved.

TABLE L

ANALYSIS OF VARIANCE--TOTAL ACTS (Order of Observation x Teachers[a])

Source of Variation	Sum of Squares	df	Variance Estimate	F
Order of Obs. (Columns)	1,535.21	2	767.60	.32
Teachers (Rows)	152,466.51	34	4,484.31	1.84*
Remainder	165,635.23	68	2,435.81	
Total	319,636.95	104		

*Significant difference at .05 level.

[a] Thirty-five teachers involved.

was computed for each teacher by totaling the categories of Controlling Functions, Imposition, and Negative Affectivity. The analysis of variance computation, Table LI, shows that there are differences between teachers at the .05 level of significance. One teacher is significantly more dominative than half of the other thirty-five teachers.

An integrative behavior index was computed for each teacher by totaling the categories of Development of Content, Personal Response, and Positive Affectivity. The analysis of variance, Table LII, shows the differences among the teachers significant at the .001 level. Four teachers are significantly more integrative in their behavior than approximately half of the thirty-five teachers and two teachers are significantly less integrative in their behavior than something over a third of the teachers, according to Duncan's Multiple Range Test.

Again, the data on differences among the teachers on the indices of dominative and integrative behavior appear to show that as a group they are more alike than different and that only a few teachers can be seen as "good" within our definition, and few as "poor". It may be of interest to note that, according to Duncan's Multiple Range Test, the teachers on both ends of the Dominative index are Judged-good teachers.

TABLE LI

ANALYSIS OF VARIANCE---DOMINATIVE BEHAVIOR (Teachers[a] x Order of Observation)

Source of Variation	Sum of Squares	df	Variance Estimate	F
Between Teachers	118,315.55	34	3,479.87	< 1
Order of Observation	2,511.85	2	1,255.92	1.72*
Remainder	137,641.40	68	2,024,14	
Total	258,468.80	104		

*Significant difference at .05 level.

[a] Thirty-five teachers involved.

TABLE LII

ANALYSIS OF VARIANCE--INTEGRATIVE BEHAVIOR (Teachers[a] x Order of Observation)

Source of Variation	Sum of Squares	df	Variance Estimate	F
Between Teachers	39,287.86	34	1,155.52	< 1
Order of Observation	683.23	2	341.62	2.96*
Remainder	26,582.53	68	390.92	
Total	66,553.62	104		

*Significant difference at .001 level.

[a] Thirty-five teachers involved.

According to the socially integrative index the four most integrative teachers are from the Representative group; however, the two least integrative came from the Representative teachers.

INTERCORRELATION OF CATEGORIES

Another question that must be explored is that of intercorrelation of categories. What differences in relationships among categories are present when examined with situations of different content? This latter question is related to the basic question of individual teaching pattern and the flexibility that is shown by a teacher as he interacts and responds to children in any specific situation.

The data are found in Table LIII. The table also includes a column showing the correlation of totals of one category across all situations with the totals of all other categories. The correlation matrices of content situations are presented in Figures 12, 13, 14 and 15.

There are no significant correlations between Controlling and Imposition in any of the situations. Controlling and Content have a significant relationship in Social Studies at the .05 level. Such a correlation is not unexpected since Social Studies might be viewed as the period *par excellence* for the Development of Content. It does lend itself somewhat less to the excessive drill that some teachers use to control the Reading and the Arithmetic periods. Also, the analysis

TABLE LIII

INTERCATEGORY CORRELATIONS FOR READING, ACTIVITY, SOCIAL STUDIES, AND A TOTAL OF ALL SITUATIONS

Category	Correlated With	Reading N=33	Activity N=25	Social Studies N=23	Total of All Situations N=35
Controlling--					
	--Imposition	.29	-.02	-.04	-.01
	--Facilitating	.28	-.03	-.10	-.07
	--Content Dev.	.01	-.20	.45*	.26
	--Response	-.35*	-.54**	-.41*	-.36*
	--Pos. Affect.	.36*	-.17	.08	.08
	--Neg. Affect.	.27	.21	-.10	.10
Imposition---					
	--Facilitating	-.09	-.33	.31	-.05
	--Content Dev.	.19	-.26	.18	.07
	--Response	-.12	-.04	.16	-.04
	--Pos. Affect.	-.14	-.13	.17	-.20
	--Neg. Affect.	-.15	.34	.00	.16
Facilitating-					
	--Content Dev.	-.28	.18	-.20	-.12
	--Response	.16	.25	.71**	.57**
	--Pos. Affect.	.13	.23	-.01	.04
	--Neg. Affect.	.06	-.13	-.02	-.04
Content Dev.-					
	--Response	-.13	.35	-.20	-.03
	--Pos. Affect.	.20	.63**	.39	.41*
	--Neg. Affect.	-.01	-.28	-.42*	-.31
Response-----					
	--Pos. Affect.	-.24	.30	.06	.08
	--Neg. Affect.	-.38*	-.32	-.06	-.37*
Pos. Affect.-					
	--Neg. Affect.	.20	-.14	-.18	-.01

*Significant r at .05 level: .34 .40 .41 .33

**Significant r at .001 lev.:.44 .50 .52 .43

(using Fisher's z' transformation)

	Controlling	Imposition	Facilitating	Content Development	Response	Positive Affectivity	Negative Affectivity
Controlling		.29	.28	.01	-.35*	.36*	.27
Imposition	.29		-.09	.19	-.12	-.14	-.15
Facilitating	.28	-.09		-.28	.16	.13	.06
Content Development	.01	.19	-.28		-.13	.20	-.01
Response	-.35*	-.12	.16	-.13		-.24	-.38*
Positive Affectivity	.36*	-.14	.13	.20	-.24		.20
Negative Affectivity	.27	-.15	.06	-.01	-.38	.20	

N = 33

*Significant r, at .05 level, required .34

**Significant r, at .001 level, required .52

[a] The r required for significance was obtained by using Fisher's z' transformation.

FIGURE 12

INTERCATEGORY CORRELATION COEFFICIENT[a] MATRIX: READING

	Controlling	Imposition	Facilitating	Content Development	Response	Positive Affectivity	Negative Affectivity
Controlling		.04	-.10	.45*	-.41*	.08	-.10
Imposition	.04		.31	.18	.16	.17	.00
Facilitating	-.10	.31		-.20	.71**	-.01	-.02
Content Development	.45*	.18	-.20		-.20	.39	-.42*
Response	-.41*	.16	.71**	-.20		.06	-.06
Positive Affectivity	.08	.17	-.01	.39	.06		-.18
Negative Affectivity	-.10	.00	-.02	-.42*	-.06	-.18	

N = 23

*Significant r, at .05 level, required .41

**Significant r, at .001 level, required .52

[a] The r required for significance was obtained by using Fisher's z' transformation.

FIGURE 13

INTERCATEGORY CORRELATION COEFFICIENT[a] MATRIX: SOCIAL STUDIES

	Controlling	Imposition	Facilitating	Content Development	Response	Positive Affectivity	Negative Affectivity
Controlling		-.02	-.03	-.20	-.54**	-.17	.21
Imposition	-.02		-.33	-.26	-.04	-.13	.34
Facilitating	-.03	-.33		.18	.25	.23	-.13
Content Development	-.20	-.26	.18		.35	.63**	-.28
Response	-.54**	-.04	.25	.35		.30	-.32
Positive Affectivity	-.17	-.13	.23	.63**	.30		-.14
Negative Affectivity	.21	.34	-.13	-.28	-.32	-.14	

N = 25

*Significant r, at .05 level, required .40

**Significant r, at .001 level, required .50

[a]The r required for significance was obtained by using Fisher's z' transformation.

FIGURE 14

INTERCATEGORY CORRELATION COEFFICIENT[a] MATRIX: ACTIVITY

	Controlling	Imposition	Facilitating	Content Development	Response	Positive Affectivity	Negative Affectivity
Controlling		-.01	-.07	.26	-.36*	.08	.10
Imposition	-.01		-.05	.07	-.04	-.20	.16
Facilitating	-.07	-.05		-.12	.57**	.04	-.04
Content Development	.26	.07	-.12		-.03	.41*	-.31
Response	-.36*	-.04	.57**	-.03		.08	-.37*
Positive Affectivity	.08	-.20	.04	.41*	.08		-.10
Negative Affectivity	.10	.16	-.04	-.31	-.37	-.10	

N = 35

*Significant r, at .05 level, required .33

**Significant r, at .001 level, required .43

[a] The r required for significance was obtained by using Fisher's z' transformation.

FIGURE 15

INTERCATEGORY CORRELATION COEFFICIENT[a] MATRIX:
TOTAL FOR ALL SITUATIONS
(Includes Kindergarten)

of variance, with the added use of Tukey's Test, shows that there are differences in the use of Functions That Develop Content between Reading, Social Studies, and Activity.

One of the expected relationships, and one that held significantly for all situations, is the minus correlation of Controlling with Personal Response. When a teacher makes wide use of Controlling Functions, he is not listening to children; furthermore, under conditions of "heavy" control, children may not initiate contact with the teacher, at least about things of a personally significant nature.

The correlations of Controlling with Positive Affectivity and Negative Affectivity are not significant in any situation except Reading, where Controlling and Positive Affectivity correlate at the .05 level of significance. This appears to reflect the ritual of many reading lessons with the teacher directing the child to read, pronounce, or sound a word, and then responding with a "fine," "good," or "all right." These responses are coded Support-Stereotype and are in the category of Positive Affectivity.

Imposition has no significant relationship with any of the other categories in any situation.

The category of Facilitating has a significant correlation with Personal Response (.001) in Social Studies. This category, it will be recalled, is neutral since by this act the teacher does not change the immediate situation. In most cases it is a kind of forecast of what is to come, a statement of time, or the use of materials which accompany Structure.

Facilitating has no significant correlation with any category except Response in Social Studies.

The category of Functions That Develop Content is related significantly (.001) to Controlling in Social Studies, with Positive Affectivity in Activity. There is a minus relationship with Negative Affectivity in Social Studies. This latter correlation has important implications for teaching since it suggests that no one is going to elaborate his ideas and continue participation when his contributions are given a negative response.

The category of Personal Response shows a significant minus relationship with Controlling in all situations; and with Negative Affectivity (-.05) in Reading.

It is reasonable to expect that personal responsiveness, which requires considerable sensitivity on the part of the teacher, and a degree of initiative on the part of the child to make contact with the teacher, could not correlate other than negatively with Controlling and Negative Affectivity.

Personal Response correlates positively with Facilitating Functions in Social Studies.

As one might expect, there are no significant correlations between Positive Affectivity and Negative Affectivity.

These relationships are suggestive only since the numbers are relatively small. Perhaps the most significant column in Table LIII is the last one in which the total of each category is correlated with every other category. The persistance of a few relationships, where there are known differences in situations, appear significant.

For later work is the task of securing several records of the same situational content for each teacher and the correlation of each category with itself. This procedure would give some added information on the stability of teaching pattern.

SUMMARY OF STATISTICAL ANALYSIS OF DATA

There are no differences between the Judged-good teachers and the Representative teachers from one school.

When teachers are grouped according to deviation from the mean into three groups of nine, statistical differences are located. (Two members of the "good" group were from Representative teachers.) The four categories that differentiate the "good" and the "poor" groups are Controlling, Functions That Develop Content, Personal Response, and Negative Affectivity. The only difference between the "good" and the "middle" groups is in Personal Response.

There are differences between eleven primary teachers (first and second) and eleven intermediate grade teachers (fifth and sixth).

The primary teachers are more controlling, more negative, and perform a larger number of teaching acts in the ninety minute period of observation.

There are differences between situations according to the content.

The teachers use Controlling Functions significantly less in the Activity period than with the other content situations; also, they use more Functions of Personal Response.

Less use of Functions of Negative Affectivity is found in the Social Studies period.

When the analysis of variance is used with order of observation, which randomizes content, the thirty-five teachers differ significantly from one another in the categories of Imposition, Functions That Develop Content, Positive Affectivity, and Negative Affectivity.

Teachers differ from one another on the Dominative Behavior Index at the .05 level of significance and differ from one another on the Integrative Behavior Index at the .001 level of significance.

A relatively few teachers at either end of the distribution on any one of the indices used contribute to the significant differences noted.

Intercorrelations of categories according to situation and with total across situations are suggestive:

> Personal Response is correlated negatively with Controlling;
>
> Personal Response is correlated negatively with Negative Affectivity;
>
> Personal Response is correlated positively with Facilitating;
>
> Content Development is correlated positively with Positive Affectivity.

CHAPTER VIII

SUMMARY AND CONCLUSIONS

The special focus of this study was on a definition of good teaching and the development of a means for the assessment of the quality of teaching.

The Subjects

The subjects for the study were three groups of teachers:

> Six Judged-good teachers in Utah (Pilot Study),
>
> Twenty-five Judged-good teachers in a west coast state, and
>
> Ten teachers representative of one school in a west coast state.

These forty-one teachers represented nineteen states in their initial professional training.

The teachers were "judged-good" by a central office staff who had supervisory or consultant relationship with a large number of schools and teachers. The only suggestions of criteria were that the teachers be career teachers, at least in their fourth year of teaching, and, where possible, that the most experimental among the "good" be nominated.

The ten teachers from a large school were chosen, two from each grade--first through fifth, to represent the best teaching for each grade and, where it was present, the teaching that was of most concern to the administrator.

This design made it possible to examine the range of teaching in one school as well as to determine the differences among a group of Judged-good teachers located in fourteen school buildings in five school districts.

The Basic Data

The basic data of this study are specimen records of teacher-behavior. Two assumptions underlie this choice of data: first, we believe that the point of interaction with the child or group is the most crucial aspect of teaching; second, and a corollary of the first, is that everything the teacher says and does performs a function for someone in the teacher-learner situation, since the teacher is the authority and power figure.

The data were secured by two observers who recorded actual teacher-behavior--what the teacher said and what he did--and the responses his acts elicited from the children. As soon as possible after taking the record, each pair of observers collated their records for the final record which contained only that material upon which they both agreed.

The records were secured in thirty-minute periods according to a schedule known to the teacher. The teachers of the west coast state were asked to have a Reading lesson, a developmental lesson in Social Studies or Arithmetic, and an Activity period. Three thirty-minute records were secured for each teacher.

The six teachers of the Pilot Study each had four thirty-minute records taken. No request for particular content was made.

These 129 records constitute the basis for the description of teaching.

The Analysis of the Specimen Records of Teacher-Behavior

The records of teacher-behavior were processed with the use of the University Of Utah Revision Of The Provo Code For The Analysis Of Teaching.

For the purpose of this study, teaching was defined as interaction of teacher with child or group. Through the study of hundreds of episodes of interaction in the teacher-learner situation, thirty-one teaching functions were identified. These functions, with the subscripts that describe how they were performed, form the Code For The Analysis Of Teaching. It was found that these functions could be placed in seven large categories: Controlling Functions, Imposition of Teacher, Facilitating Functions, Functions That Develop Content, Functions of Personal Response, Functions of Positive Affectivity, and Functions of Negative Affectivity.

Each specimen record of teacher-behavior was a new and unique sequence of interactions. A teacher performed as many as 390 functions in a thirty-minute period or as few as a hundred. The mean was around 250.

Specimen records of teacher-behavior are "live" material and the identification of function performed is a matter of high discrimination. The records, for our study, were coded by two people working independently and then coming to work, through a checker, to agreement. One fifth of the pages of each record were recoded for the reliability check. The recoding was not done until a full set of records had been coded. The over-all reliability obtained for each category was:

Controlling	87.8%
Imposition	61.9
Facilitating	71.9
Content Development	85.1
Response	75.4
Positive Affectivity	84.8
Negative Affectivity	81.2

The over-all reliability for the four functions in which over eighty-five per cent of all teaching functions were located was accepted as satisfactory.

Description of Teaching

The most frequent and pervasive functions performed by the teachers were in the category of Controlling. The teachers directed the children in what they should do and how they should do it; what they should answer and how they should answer. The extent to which children can explore ideas, reach out in their experience and on their own, is very limited under controls of the kind presently exercised. In approximately two-thirds of the 129 records, the control functions performed by the teachers exceeded forty per cent of all teaching acts.

Since our records were largely those of Judged-good teachers, there was little evidence of "discipline" problems in the common meaning of the term. The children were orderly, well behaved, and trying to please the teachers.

Teachers also controlled through the use of functions of Negative Affectivity; that is, with the use of reprimands, admonishments, threats, and accusations. Teachers were differentiated in this area. Four teachers were located with significantly higher use of Negative Affectivity than the others.

A significant finding revealed the teachers' low use of Functions That Develop Content. From our frame of reference, this means response to the data which children place in the situation; that is, teachers may elaborate briefly on facts that have been stated. More importantly, however, this also means the kinds of responses from teachers which seek the expansion and association of ideas, which ask for comparisons and inferences, which relate to personal experience and opinion. It is through such interactions that children are invited to use a variety of mental processes. An interaction that requests only one factual answer, by and large, invites the use of the mental process of identification and memory only.

Three-fourths of the 129 records examined contained functions in this category amounting to less than twenty per cent of the total functions performed by teachers. This fact takes on added meaning when we see that this category includes those acts in which the teacher serves as a resource to the child's questions, and the teaching acts of evaluation. Less than half the acts of evaluation were accompanied by discrimination. Evaluation is made more useful when accompanied with discrimination since the teacher thereby gives overtly the correctness of incorrectness of what the child is doing.

All teaching acts in the category, Functions That Develop Content, may be considered problem or subject-matter centered.

The functions of Personal Response include those which develop rapport between teacher and child or teacher and group on a personal basis. They include granting personal requests and clarifying personal experience. Furthermore, they include the responses of the teacher that interpret the reality of the situation for the child. Although a relatively small number of the total teaching functions a teacher performs fall in this category, these functions are intimate and, in general, are those that demonstrate to the child that he counts with the teacher who is a significant person in his life, expecially during the elementary school years. Response Personal was correlated, negatively and significantly, with the category of Negative Affectivity in every situation.

The functions of Personal Response were used relatively infrequently by teachers. This might have been expected from noting the large number of Controlling Functions used, since a teacher cannot be dominatively directive most of the time and have much opportunity to be personally responsive to children. Two-thirds of the records had less than five per cent of all teaching acts in this category.

In general, teachers used more functions of Positive Affectivity, which include supportive statements and offers of help, than they did functions of Negative Affectivity, which include the reprimands, admonishments, and refusals of something for which children ask. Teachers were pleasant with children although much of the support was a stereotyped "Good," or "Fine." Such expressions accept the performance of the child and tend to ease any apprehension he has.

Teachers differed significantly in their use of Positive Affectivity. One teacher was located who used significantly fewer functions of Positive Affectivity than the others.

It was possible to group the three categories of Controlling Functions, Teacher Imposition, and Functions of Negative Affectivity as a Dominative Behavior Index. The Functions That Develop Content, Personal Response, and Positive Affectivity were grouped as an Integrative Behavior Index.*

The excessive use of Dominative functions were demonstrated by the fact that eighty per cent of all records showed that the teachers were dominative in over fifty per cent of their total teaching acts. Teachers differed on the Dominative Index at the .05 level of significance.

Approximately three-fourths of the teachers had forty or less per cent of their total teaching acts integrative. Teachers differed on the Integrative Behavior Index at the .001 level of significance.

Harold Anderson describes dominative behavior as coercive and unyielding. He suggests that the one dominating is unyielding in his own purpose and will not admit the expression of another. With integrative behavior the individual admits the evidence from the reactions of others; he is flexible and adaptive.

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*Note that Facilitating Functions are neutral; therefore do not appear in either the Dominative Index of the Integrative Index.

Differences Between Groups

There were no (statistically significant) differences discovered between the twenty-five Judged-good teachers and the Representative teachers of one school.

There were significant differences between the eleven primary teachers (first and second grade) and the eleven intermediate grade teachers (fifth and sixth). The primary teachers were more controlling (.05) and more negative (.01). They also performed a larger number of teaching functions than the intermediate grade teachers in the ninety minutes of observation.

There were significant differences among the situations relative to Content--Reading, Social Studies, Activity, and Arithmetic. In general, the Activity period was most differentiated from the others.

When teachers were ranked, according to deviation from the mean of the six best records, and grouped according to the nine in the "middle," significant differences were located between the "good" group and the "poor" group on Controlling, Functions That Develop Content, Personal Response, and Negative Affectivity. It is significant that there were no differences between the groups on Positive Affectivity. The "middle" group was differentiated from the "poor" group on Controlling Functions only.

The only difference between the "good" group and the "middle" group occurred in the category of Personal Response.

A Definition of Good Teaching

A definition of good teaching, within our framework of functions performed in the classroom, requires a reduction in the number of Controlling Functions performed. The power component of the teacher should be ameliorated with the overt statement (Public Criteria) of the reason for a direction or command. Reduction of the Controlling Functions does not mean the teacher is less responsible for the teacher-learner situation as one properly managed for the business of learning. It does mean more efficient management and more opportunities for children to become increasingly responsible for their own learning. No one can learn for another. Although our numbers were small for the correlation, it seems important to note that Negative Affectivity was absent to a significant degree when Functions That Develop Content were high.

The Structure, a Controlling Function, that is the statement of the problem or area of content to which the child is to give attention, should be made with clarity. Moreover, Structure should allow some choice on the part of children. Choice, as used in relation to Structure, refers to a type of question that is sufficiently open to have several facets; therefore, it has more than one answer, and the choice of the facet to which a child will respond is left to him. Such Structure-Open invites participation; other children can continue to explore the problem, oftentimes, without more regulating or control on the part of the teacher. The type of Structure that requires a single specific answer means that the teacher remains in control since the next Structure is usually done by him. The function of Regulate is used to designate the teacher's act of naming the one who is to respond. This act of control may be ameliorated through the use of a neutral regulation wherein an orderly procedure is set up for response. The problem with Regulate is the teacher's use of it as reward and punishment or as a kind of "production" or flaunting of his authority.

Public-Criteria has been indicated as one way of ameliorating the power component of the teacher. The use of Public-Criteria clarifies the factors in the situation that require certain standards and conventions that are common to the larger society. These standards in good teaching are maintained by relating them to the larger society as Universals.

We found teachers using very few of these ways of Controlling which ameliorate the power component.

Good teaching requires a substantial increase in the use of the Functions That Develop Content. These are necessary if children are to become involved in the subject matter of the school, and if they are to have the opportunity to use a wider range of mental processes than those of identification and memory.

Good teaching requires an increase in the use of functions of Personal Response. These functions help the child feel respected and increase his perception of reality.

Good teaching requires that minimum use of functions of Negative Affectivity be used. Functions of Positive Affectivity need to be used more frequently than those of Negative Affectivity.

The Model, a graphic form of the definition of good teaching, is presented with a sliding scale of the percentage each category of functions is of the total. This makes it possible to show the patterns of individual teaching against the Model.

Good teaching cannot be assessed as a single score; instead, some device is necessary to take into consideration the specific situation, the characteristics of the child or group, and the characteristics of the teacher as a person.

Some teachers are already teaching as "good" teachers within our definition. Evidence of this is found in the six best records which show teaching largely within the Model. The mean for these six "best" records is graphed on the Model. Two of these superior records appear in total in Appendix E.

Conclusions

There were few "good" teachers within our definition and few "poor" teachers. The teachers at both ends of the scale in the Representative group were all identified correctly by the administration; only one identified at the lower end of the scale proved to be among the "middle" on all categories of functions.

The same range of performance was discovered among the Judged-good teachers as we found in those representative of teaching within one school. This is somewhat remarkable considering that fourteen different schools were represented.

There are several conclusions that may be drawn from these data: the criteria for Judged-good used by a central office staff is compounded of many things and the achievement of common criteria is often not gained or perhaps attempted as each member respects and accepts the judgment of another member.

Within a single school, the criteria may be more focused and consistent; in this case, it coincided with the criteria of the study. More work is needed to discover whether or not the agreement between principal's judgment and outside criteria would be as consistent as in this case.

Finally, the explanation may lie in the distribution of quality in the Judged-good teaching population. The similarity of pattern of distribution in each category may be noted. Figure 16 presents the data on mean deviation for each category and for the total number of functions (acts) performed by each teacher in the ninety-minutes of observation. Figure 17 presents patterns of teaching for the three groups in the study. The relationship to the Model and to one another may be seen.

Conc

A basic conclusion to be drawn from our study is that the relationship of teacher to child reflects to a marked degree the adult-child relationship of our culture. There are common expectations of how a teacher performs the teaching role. Contrary to opinions articulated by a few, the classrooms are distinctly controlled by the teacher; there is drill; there is a tight holding of the child to completion of his work; there is pressure on the child for him to learn to read and to meet other standards for his grade.

196

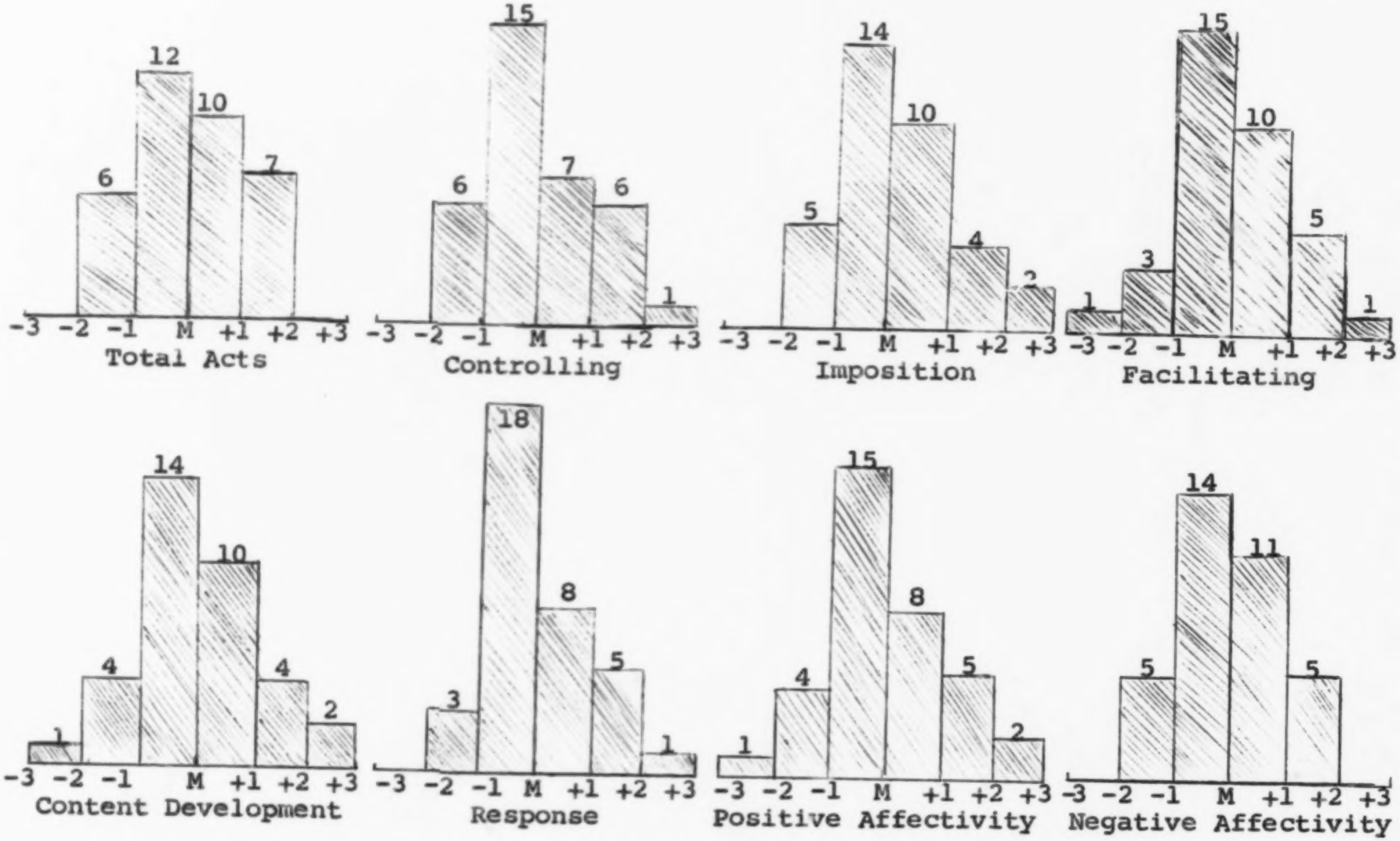
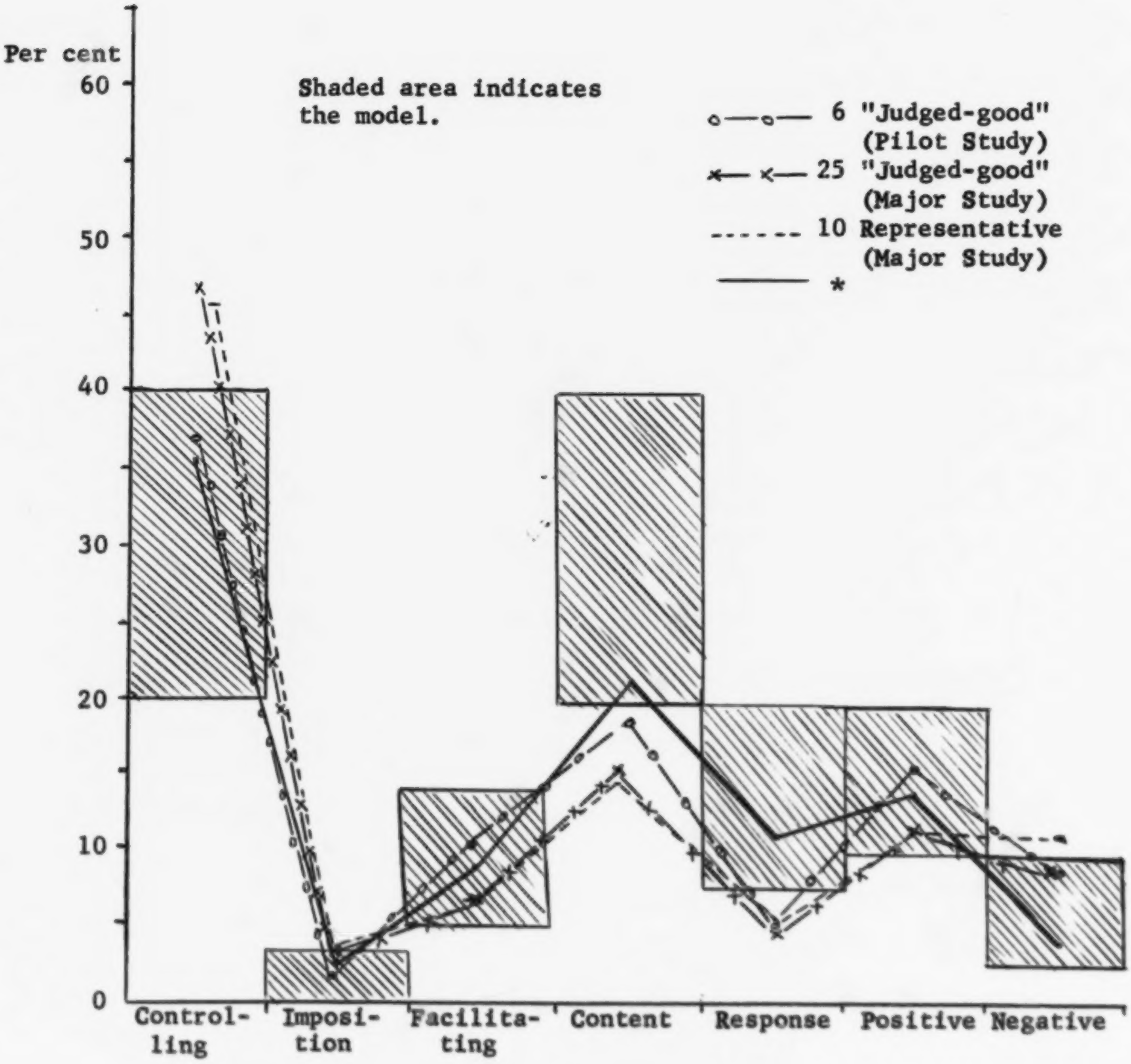


FIGURE 16

DISTRIBUTION OF THIRTY-FIVE TEACHERS BY STANDARD DEVIATION FROM THEIR MEAN, ON EACH CATEGORY AND TOTAL TEACHING ACTS



* Indicates the mean of the six-thirty minute records considered to be nearest the model.

FIGURE 17

PATTERN OF TEACHING ACTS FOR THREE GROUPS OF TEACHERS BASED UPON THE MEAN OF THE THREE THIRTY-MINUTE RECORDS

Today's teachers do not use corporal punishment, but they are very effective with their verbal disapproval and even punishing with it.

Teachers of today, as well as members of families and other organizations find it difficult to deal with and integrate individual differences. If the potentials of each individual and the human race are to be realized, this is a step that all must take. Nowhere is it more important than in the pre-school years at home and the elementary years at school. There is, and has been for at least a quarter of a century, sufficient evidence of differences in growth patterns of children to know that, even given normal and bright children, they cannot learn to read and acquire other abilities prized by the culture _at the same time_ nor _at the same rate_. It is necessary to accept and make room for these differences without damage to the self-confidence of the child.

With the information available today regarding conditions for learning and personal involvement, the quality of teaching in elementary school can be substantially raised.

To raise the quality of teaching in elementary schools* requires:

A broader and clearer definition of goals on the part of all--public and teaching profession. This means, for example, that the goal of fostering a wider range of mental processes become truly operative; that individualization of instruction be sought as a reality--eventually, with smaller numbers of children per classroom.

---

*Note: From our experience we would hypothesize that anything said about teaching in elementary school is just as applicable to all segments of education including graduate school.

A substantial increase in in-service training activities supported by the districts. Such in-service procedures need to be carefully planned with full cognizance of the "threat" experienced by many people with the advent of change; these in-service activities need to be based on careful diagnosis of the situation and be broad enough to allow choice on the part of teachers with regard to what they will attempt first.

An increase in experimentation with changes in types of school organization, in the schedule of activities within the classroom, in the procedures or methods used, and especially, a change in the distribution of functions teachers perform in the classroom. These changes should be accompanied by appropriate evaluative procedures.

A drastic change in pre-service education. This means that each candidate for teaching be an educated person with well developed intellectual interests; that he and the public recognize that teaching calls for professional skills and sensitivities that are learned. It is hoped that this study has made some contribution to the identification of these professional skills and sensitivities. One of the major skills to be acquired is that of responsiveness to children in a discriminating professional manner. New ways of acquiring these skills and sensitivities need exploration in teacher-training institutions.

Rel

The selection of teachers for professional training should continue to be given careful attention. 110

Teaching, as we have come to know it through the study and analysis of our records, is much more demanding and specialized than we had realized. The responsibility teachers have for the infinite number of interactions is almost inconceivable. To maintain the best nurture for growth and learning, each response to a child is a matter of conscious discrimination and must take into consideration the reaction or response of the child. From one standpoint, teaching may be looked at as a continuous process of gathering evidence.

The arranging and maintaining of an environment most conducive to learning requires that the teacher be adequate and mature as a person. The teacher must wait for results to show in the growth of children and then see one's self as only a small part in the process of the child's becoming a man. The teacher must have confidence in processes of growth, and this requires a kind of human maturity that takes time to develop.

The responsibility for raising the quality of experience for children in the elementary schools cannot be done without public and professional people sharing the more important goals of education and together testing procedures for attaining them. We have given a definition of good teaching which we believe would give children an opportunity to become more socially responsible, creative people. The next step for us is to test good teaching under conditions of careful control.

Postscript: Methodology

The University Of Utah Revision Of The Provo Code For The Analysis Of Teaching is an instrument that differentiates between teachers in their pattern of interaction with children.

The method of using two observers to secure the specimen records of teacher-behavior, followed by the collation of the two records for the final record, provides an adequate method for the purpose of reliability of recording. The process of coding a record by each member of a pair working alone and then coming to agreement through a checker gave reliability that is satisfactory for the four categories in which eighty-five per cent of all teaching acts fell.

The method used for obtaining the record and coding it are expensive and time consuming. Both the securing and coding of the records need trained people with the ability to concentrate intently on the job at hand. In addition, the coding process requires, (a) high discrimination with the ability to keep numerous things in mind at once, (b) the attainment of an objectivity that seeks only to determine "What functions did this teaching act perform for the child?" There can be no judgment of the appropriateness of the function and no identification with the teacher and his purposes.

There are distinct advantages with this method of studying the teacher-learner situation. The record is available to be analyzed and used in any way that maintains the integrity of the relationship with the teacher. This means that the records may be analyzed by different conceptual frameworks. One of its greatest uses may be the insight that it gives a teacher as he analyzes his own record.

There are limitations to the method of recording that we used. Even two observers can't get everything that the teacher says and does, although we can suggest from our experience that what we didn't get is often more of the same; for example, several children are directed to do something, each in rapid succession, instead of recording the seven or nine directions accurately, the observers may get four of them. We have stressed accuracy in recording what was said, and accuracy in getting the sequence of happenings. The differences made by the presence of observers in the classroom remains an unknown factor, even though order of observation showed no difference. As improvements are made in electronic recording devices it should be easier to get complete records.

There remains some work to be done on the instrument. It may be that some collapsing of functions will add to reliability; the new _Manual Of Directions For Use Of The University Of Utah Revision Of The Provo Code For The Analysis Of Teaching_ gives much clearer definitions and cues for the identification of functions. There is evidence that this has improved reliability.

A major next step is that of assigning value to the functions within each category. The counting of acts, as we have done, is unsatisfactory for evaluation but appeared to be useful for the description. With the work we have now done, it is possible to work with the problem of assignment of value to functions within the category. We also believe that some relationship among categories should be considered in assigning a final value to teaching.

The assessment of the quality of teaching in the elementary schools is much more complex than it appears. When the thirty-five west coast teachers were ranked in terms of deviation from the mean of the six best records, the records of the nine lowest were again studied and many fine interactions with children were located; in other words, until further work is done and norms established for teaching, we hope that this instrument will not be used for merit rating purposes.

We believe the contribution of the instrument is in the increased insight that it gives us of the teacher-learner situation. It does provide a new framework for the examination of teaching. For research purposes, and for purposes of in-service training, we believe that it will prove useful.

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APPENDIX A

(Materials Related to Chapter II)

Appendix A-1

THE PILOT STUDY

Six Judged-Good Teachers of Utah

The Pilot Study of six judged-good teachers of Utah was carried out in the Spring of 1958 for three purposes:

a. To train a staff of observers for the major study;

b. To complete technical work on methodology, to standardize the process of record-taking, to revise the *Provo Code For The Analysis of Teaching*; and

c. To determine the extent to which the *Code* differentiates among teachers.

The Teachers of The Study

Four of the six teachers were nominated as "Judged-good" by the central office staff of a district adjacent to Salt Lake City. Two other teachers were added by the Department of Education of the University of Utah. All six teachers were visited as demonstration teachers by teacher-training classes in elementary education. The teachers were from three school districts with each one located in a separate building.

Appendix A-2

TABLE AI

GRADE TAUGHT, AGE, AND EXPERIENCE OF THE SIX JUDGED-GOOD TEACHERS
(Utah Pilot Study)

School	Grade	Sex	Age	Experience
6	First	Female	Under 25	2 Years
1	Third	Female	Over 45	19 Years
2	Fourth	Female	Over 45	6 Years
3	Fifth	Male	25 - 30	4 Years
4	Sixth	Male	30 - 37	6 Years
5	Sixth	Male	30 - 37	8 Years

The Procedure of Securing The Data

The procedure for the taking of records was improved in this study. Three of the trained Provo Staff worked with the University Staff throughout the study; thus, the training of the new staff was accelerated.

Each record was made by two observers who followed the teacher and recorded everything he said and did, to whom he said it, and the response of the child or group with whom he was interacting. The pairs were rotated in such a way that no pair took two records consecutively and no teacher had the same pair of observers for a second record. Each teacher had four thirty-minute records made, one each week for four successive weeks. Each pair collated their records as soon as possible after taking them. The final record processed was the collated record. The records were coded with five staff members working together for concensus. From this coding experience more complete insights and more adequate identification of situational cues were gained for the *revision of the Code*.

The Hughes-Carin *Perception Test*, the *Classroom Social Distance Scale*, the DeGroat Thompson *Approval-Disapproval Scale*, and the Hughes *Portrait of Myself As A Reader* were administered to the three fifth and sixth grade classes. Interviews were held with one-half of the pupils in all of the classes except the first grade. An analysis of variance was performed to determine differences in situations and between teachers. In addition, the exact differences between teachers were determined with a *t* ratio.

Appendix A-4

Outcomes of the Pilot Study*

The most important outcome of the Pilot Study was the training of the University research staff in the taking and analyzing of the specimen records of teacher behavior by the use of the _University Of Utah Revision Of The Provo Code For The Analysis Of Teaching_.

The _University Of Utah Revision Of The Provo Code For The Analysis Of Teaching_ was made with the addition of three teaching functions and the formation of the new over-all category of Personal Response. The definitions were made in a clear-cut manner with less reliance on illustrations, and greater reliance on factors or cues in the situation. Since each record was unique from the standpoint of the observer, illustrations were repeated in but few instances. Where they were frequently repeated, as in Support-Stereotype, there was no problem of definition and reliability.

The use of the _University Of Utah Revision Of The Provo Code For The Analysis Of Teaching_ did pick up differences between teachers that proved to be significant. (Tables AI and AII**)

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*In an earlier report, differences between teachers of the Pilot Study and teachers of the Provo Study were presented. Since the methods of securing the records were not comparable, a report of this comparison appears inappropriate at this time.

**The data for each teacher for the four situations may be found in Appendix D on the base data sheet for all of the 129 records of the study.

TABLE AI

DISTRIBUTION OF TEACHING ACTS FOR THE SIX UTAH TEACHERS "JUDGED GOOD" BASED UPON FOUR THIRTY-MINUTE RECORDS

Teacher	Total Acts	Controlling		Imposition		Facilitating		Content		Response		Positive		Negative	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
A	596	121	20	5	1	63	11	169	28	41	7	67	11	130	22
B	848	449	53	12	1	119	14	72	9	28	3	135	16	33	4
C	695	278	40	14	2	99	14	106	15	40	6	104	15	54	8
D	641	242	38	5	1	68	11	124	19	39	6	143	22	20	3
E	424	149	35	14	3	38	9	112	27	14	3	62	15	35	8
F	519	168	32	9	2	54	10	101	20	31	6	86	16	70	14
*			35		2		9		22		12		15		5

*Indicates the mean of the six thirty-minute records considered to be nearest the model.

Appendix A-6

TABLE AII

ANALYSIS OF VARIANCE---PILOT STUDY
(Situations x Teachers[a])

Source of Variation	Sum of Squares	df	Variance Estimate	F
Controlling				
Situations (Columns)	4,151.46	3	1,383.83	2.98
Teachers (Rows)	18,143.37	5	3,628.67	7.81*
Remainder	6,966.79	15	464.45	
Total	29,261.62	23		
Imposition				
Situations (Columns)	27.79	3	9.26	1.50
Teachers (Rows)	21.71	5	4.34	.70
Remainder	92.46	15	6.16	
Total	141.96	23		
Facilitating				
Situations (Columns)	106.12	3	35.37	.43
Teachers (Rows)	1,125.38	5	225.08	2.76
Remainder	1,222.46	15	81.50	
Total	2,453.96	23		

TABLE AII (cont.)

Source of Variation	Sum of Squares	df	Variance Estimate	F
Content Development				
Situations (Columns)	374.33	3	124.78	.19
Teachers (Rows	1,281.50	5	256.30	.37
Remainder	10,378.17	15	691.88	
Total	12,034.00	23		
Response				
Situations (Columns)	97.46	3	32.49	1.02
Teachers (Rows)	133.71	5	26.74	.84
Remainder	477.79	15	31.85	
Total	708.96	23		
Positive Affectivity				
Situations (Columns)	440.79	3	146.93	2.45
Teachers (Rows)	1,454.37	5	290.87	4.85*
Remainder	899.46	15	59.96	
Total	2,794.62	23		
Negative Affectivity				
Situations (Columns)	113.83	3	37.94	.62
Teachers (Rows)	1,984.00	5	396.80	6.53
Remainder	910.67	15	60.71	
Total	3,008.50	23		

*Significant difference at .01 level.

[a] Six teachers involved.

Appendix A-8

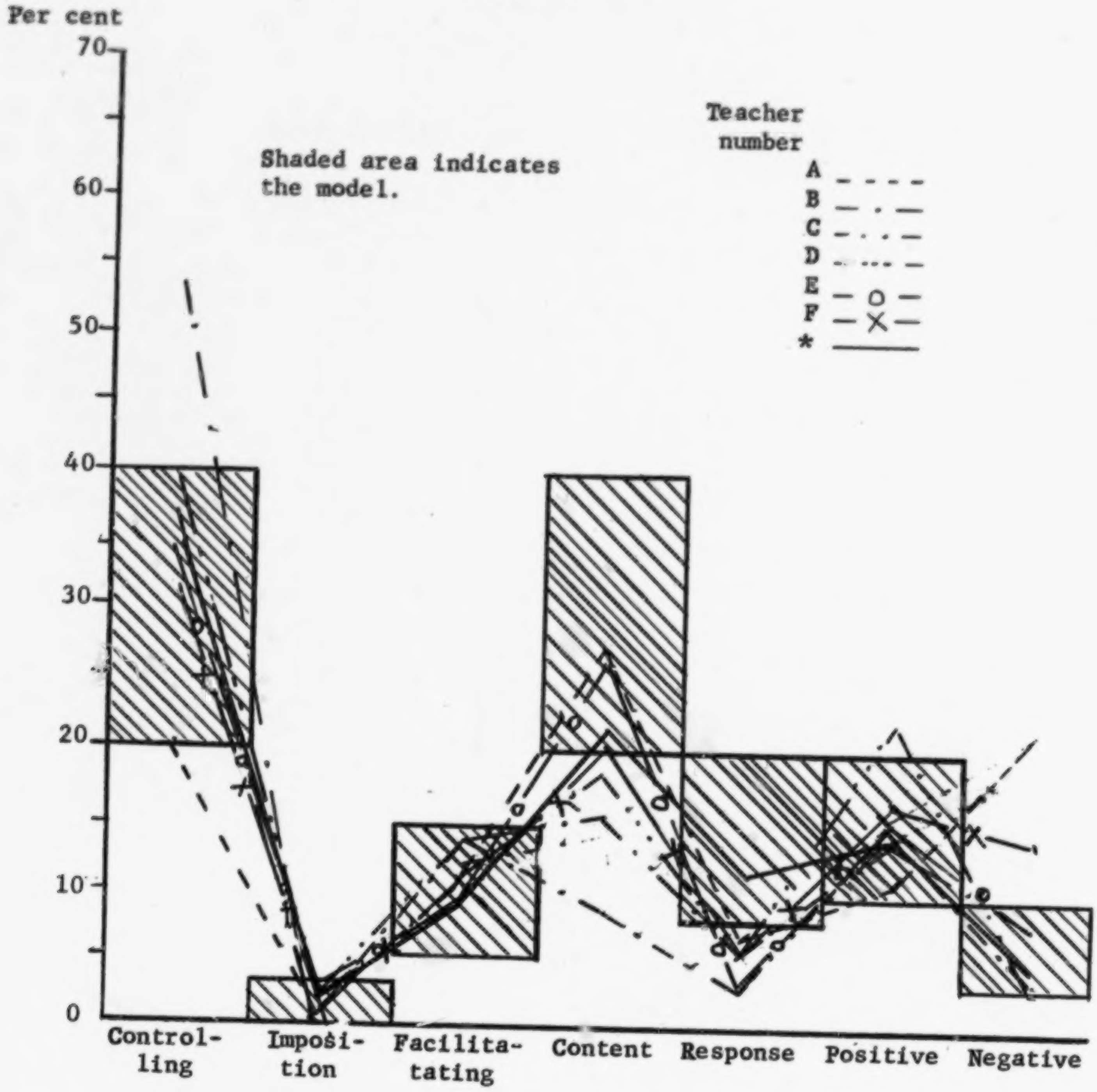
There were no differences among patterns of teaching acts related to situations. Records were taken on the basis of different time of day without any request for specific content. Teachers did differ from one another on the Functions of Controlling, Negative Affectivity, and Positive Affectivity.

These six teachers were not differentiated on their use of Functions That Develop Content. This is the area in which all teachers whose records we have examined appear weak. Since this category includes elaboration of the problem under consideration, evaluation of it, and the mental activity of comparing and perceiving of relationships, it seems fair to conclude that the mental activity of recall and memory is fostered far more than those that involve the associations and evaluation of ideas.

The records showed that these teachers were using individual and small group organizations--that they were attempting planning with children; however, the patterns of teaching acts did not correspond to these newer ways of working. The teachers acted in the conference situation with an individual as they might have with the total class.

Figure A-1 shows the pattern of teaching acts for each of the six judged-good Utah teachers, graphed against the Model. Table AIII presents the data in tabular form.

Appendix A-9



* Indicates the mean of the six thirty-minute records considered to be nearest the model.

FIGURE A1

PATTERN OF TEACHING ACTS FOR THE SIX UTAH TEACHERS "JUDGED GOOD" BASED UPON THE MEAN OF THE FOUR THIRTY-MINUTE RECORDS

Appendix A-10

TABLE AIII

ANALYSIS OF INDIVIDUAL TEACHERS--PILOT STUDY

Teachers	Controlling		Imposition		Facilitating	
	No.	Mean	No.	Mean	No.	Mean
A	121	30.2	5	1.3	63	15.8
B	449	112.2	12	3.0	119	29.8
C	278	69.5	14	3.5	99	24.8
D	242	60.5	5	1.3	68	17.0
E	149	37.5	14	3.5	38	9.5
F	168	42.0	9	2.3	54	13.5

STANDARD DEVIATIONS[a] AND CRITICAL RATIOS

Teachers	Controlling		Imposition		Facilitating	
	s	t	s	t	s	t
A & B	22.5	5.78**	2.18	1.18	10.28	1.92
A & C	24.6	2.26	2.23	1.40	10.42	1.22
A & D	13.2	3.25*	1.24	0	6.28	.28
A & E	22.4	.46	2.87	1.06	5.68	1.55
A & F	16.0	1.04	1.57	.91	5.33	.61
B & C	31.9	1.89	2.84	.24	13.09	.54
B & D	24.2	3.02*	2.19	1.10	10.11	1.79
B & E	30.2	3.50*	3.44	.21	9.74	2.95*
B & F	25.9	3.84**	2.40	.41	10.37	2.22
C & D	26.2	.49	2.37	1.32	10.25	1.08
C & E	31.8	1.42	3.56	0	9.90	2.19
C & F	27.7	1.40	2.57	.66	9.69	1.63
D & E	24.1	1.35	3.05	1.07	5.37	2.08
D & F	18.3	1.43	1.80	.79	4.98	.99
E & F	25.7	.25	3.21	.53	4.20	1.35

*Significant difference at .05 level.

**Significant difference at .01 level.

[a] Because of the small numbers involved, the standard deviations were obtained by pooling the sums of the squares around the means of the two groups and dividing this total by the numbers of degrees of freedom.

TABLE AIII (cont.)

ANALYSIS OF INDIVIDUAL TEACHERS--PILOT STUDY

Teachers	Content		Response		Pos. Affect.		Neg. Affect.	
	No.	Mean	No.	Mean	No.	Mean	No.	Mean
A	169	42.3	41	10.3	67	16.8	130	32.5
B	72	18.0	28	7.0	135	33.8	33	8.3
C	106	26.5	40	10.0	104	26.0	54	13.5
D	124	31.0	39	9.8	143	35.8	20	5.0
E	112	28.0	14	3.5	62	15.5	35	8.8
F	101	25.3	31	7.8	86	21.5	70	17.5

STANDARD DEVIATIONS AND CRITICAL RATIOS

Teachers	Content		Response		Pos. Affect.		Neg. Affect.	
	s	t	s	t	s	t	s	t
A & B	20.22	1.70	6.67	.70	4.27	5.63**	11.06	3.09*
A & C	25.62	.87	6.82	.06	8.95	1.45	10.86	2.48*
A & D	23.05	.69	7.78	.09	7.61	3.53*	10.21	3.81**
A & E	36.31	.56	5.91	1.62	8.28	.22	10.67	3.14*
A & F	21.53	1.12	5.94	.60	5.65	1.18	10.94	1.94
B & C	16.51	.73	5.29	.80	8.95	1.23	6.05	1.21
B & D	12.14	1.52	6.49	.61	7.61	.37	4.77	.98
B & E	30.55	.46	4.06	1.22	8.28	3.12*	5.71	.12
B & F	8.91	1.16	4.10	.28	5.65	3.08*	6.19	2.11
C & D	19.89	.32	6.62	.04	10.94	1.27	4.30	3.95**
C & E	33.41	.06	4.30	2.14	11.42	1.30	5.32	1.25
C & F	18.09	.09	4.33	.71	9.69	.66	5.83	.97
D & E	32.50	.13	5.17	1.56	10.41	2.76*	3.80	1.41
D & F	14.22	.57	5.74	.49	8.46	2.39	4.49	3.94**
E & F	31.43	.12	2.70	2.26	9.07	.94	5.47	3.15*

*Significant difference at .05 level.

**Significant difference at .01 level.

Appendix A-12

Findings From The Classroom Tests

All the interviews and perception tests indicated that children have a very great investment in school with much emotionality attached to it.

The DeGroat-Thompson Approval-Disapproval Scale showed no differences among the three rooms. Teachers give a few children a disproportionate amount of approval and a few children a disproportionate amoung of disapproval. This is, of course, as seen through the eyes of the children in their nominations to portraits of children. Example: "Here is someone whom the teacher always calls on for the right answer." "Here is someone whom the teacher always tells to take his seat."

The Classroom Appraisal Scale showed all children very positive in attitudes toward school and teachers. The younger children tended to be somewhat more positive. However, the data were not strictly comparable since the third and fourth grades were interviewed and the fifth and sixth grades responded to a paper and pencil test.

Appendix A-13

The Perception Test*

The Hughes-Carin Perception Test was designed to determine the degree to which the functions identified by the Code definitions as those the teacher performed in the classroom, were seen by the children in the same way.

The data were secured from 484 fifth graders in five schools located in a residential area of upper-middle and middle class homes. The test was administered to all the fifth grade population of the fifteen classrooms. The Perception Test comprised brief stories of interactions between teacher and child or group taken from actual records with a minimum of editing. Two situations or stories were presented for each of the twenty functions they were designed to test.

Only two acts Reprimand and Inform, were seen by eighty-five per cent to ninety-eight per cent of the children without added, and for us unexpected, elements of response. In other words, of the twenty classroom situations to which response was solicited, four were seen more uniformly by the children. Even so, in the situation of Reprimand wherein the teacher did not read the story because of noise in the room, seventeen per cent of the children gave no indication of seeing it as punishment. Likewise, in one of the two situations of Inform, sixteen per cent of the children identified with the child model the teacher was using as she instructed them how to draw. We concluded that these two teaching acts, Reprimand and Inform, were seen more clearly by more pupils because they were within the expectations of what a teacher should be doing.

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*Arthur Carin, "Children's Perception of Selected Teaching Acts," Doctor's Dissertation. Univ. of Utah, Fall 1958. (Unpublished); Burton Thompson, "Perceptions of Fifth Grade Pupils of High and Low Achievement Regarding Selected Classroom Situations," Master's Thesis. Univ. of Utah, August 1958. (Unpublished); and Robert Wagoner, "Fifth Graders' Perception of the Teaching-Learning Situation as Determined by Responses to Two Open-Ended Questions," Master's Thesis. Univ. of Utah, Spring 1958. (Unpublished).

These data indicate the dynamic, multi-level nature of the teaching-learning situations.

All teaching acts were seen by the children with sufficient acceptance of the functions of the teaching act for us to have continued confidence in the Code; however, it must be realized that on the average, fourteen to twenty per cent of the children appeared not to perceive the function in the same manner as adults. They were responding to tangential elements in the situation or their "set" was such that they were not free to accept the situation at face value.

An example will serve to clarify the last statement:

The fifth grade class were selecting library books in their reading period. Robert, who was having difficulty reading, asked the teacher six words on the first page of the book that he had selected.

Robert: I think I'll get a book that I can read. This one is too hard.

Teacher: I think that's a good idea. You'll enjoy reading if you get an easier book.

Question: (a) What did the teacher do for Robert?
(b) How do you think Robert Felt?

Only thirty-five per cent of the children saw this teaching act as one of encouragement and support. Those who did demonstrated with such statements as:

"She gave him confidence."
"I think the teacher helped him find a book."
"Helped him so that he can enjoy a book."
"Makes him feel good."

Responses without acceptance of encouragement:

"She hates me."
"He better do something right."
"He felt very far behind the class."
"He felt like he didn't want to read anyway."
"I'm a pretty stupid reader."
"Felt he had poor judgment."
"Discouraged."
"I give up."

The other situation designed to test the perception of Encourage was seen as such by seventy-two per cent of the children. In this situation the teacher had said, "Let me warn you that in your work on page thirty-eight, there will be some problems that may trip you. I'm sure that you can do them." This statement would be coded Encourage. In one sense the two situations cannot be thought of as comparable although the teaching acts are the same. The data showed that there was a difference in the perception of the fifty highest achievers and the fifty lowest achievers significant at the one per cent level. The highest achievers were encouraged and the lowest achievers felt warned and apprehensive. Many of them doubted their ability. Some pupils felt that the teacher was trying to trick them.

General Findings From The Perception Study

Of the total number of responses to the twenty test situations, forty per cent were related to the "self" with more responses being negative than positive. These findings are the same as reported some years ago by Arthur Jersild.*

The next largest number of responses, some twenty-five per cent, were oriented to the teacher. About three times more responses carried positive connotation than negative.

This large number of responses pertaining to the personal illustrates the folly of talking about the education of children and youth as though they were _things_.

The general perception of the teacher held by children was that of monitor and checker. The few who saw the teacher as a friend were among the fifty high achievers.

---

*A. T. Jersild, _In Search Of Self_ (New York: Teachers College, Columbia University, 1952).

APPENDIX B

(Materials Related to Chapter III)

Appendix B-1

TABLE BI

SCHEDULE OF CLASSROOM OBSERVATION*

Record Number	No. of Pages in Record	Observation Date	Observation Team
0110	10	10-13-58	5
0120	8½	10-15-58	6
0130	9	10-21-58	1
0219	12½	10-13-58	4
0227	11½	10-15-58	3
0238	11	10-21-58	6
0317	12½	10-15-58	4
0328	9½	10-22-58	2
0335	10	10-28-58	6
0417	8½	10-13-58	2
0428	10	10-22-58	5
0435	8	10-28-58	4
0515	11	10-13-58	3
0527	11	10-15-58	1
0538	12	10-22-58	4
0617	9½	10-21-58	3
0625	9	10-30-58	2
0638	10	11- 6-58	1
0719	9½	10-21-58	4
0727	14½	10-30-58	5
0735	11	11- 5-58	8
0815	7	10-16-58	2
0824	9½	10-30-58	3
0837	11½	11-14-58	5

* Key to Record Number: First two figures indicate teacher number; third digit, order of observation; last number indicates content.

TABLE BI (continued)

Record Number	No. of Pages in Record	Observation Date	Observation Team
0915	13½	10-17-58	5
0927	10	10-30-58	11
0938	11	11-14-58	2
1013	8	10-10-58	2
1027	11	10-16-58	5
1039	9½	10-23-58	6
1118	9½	10-10-58	5
1127	11	10-17-58	6
1135	11	10-24-58	2
1218	12	10-10-58	6
1227	12	10-17-58	1
1239	15½	10-24-58	5
1315	9½	10- 9-58	4
1327	10	10-23-58	1
1339	12	11-18-58	6
1418	9	10- 9-58	3
1427	9	10-17-58	2
1439	9	11-13-58	4
1518	10	11-14-58	1
1527	10	11-18-58	2
1539	10	11-19-58	6
1612	12½	11-12-58	5
1625	9½	11-14-58	6
1637	10½	11-18-58	1

TABLE BI (continued)

Record Number	No. of Pages in Record	Observation Date	Observation Team
1717	10½	10-20-58*	2
1725	10½	10-20-58*	6
1739	11	10-29-58	1
1815	11½	10-20-58	1
1829	9½	10-29-58	4
1837	13½	11- 3-58	9
1915	12	10-29-58	3
1927	9½	11- 3-58*	2
1939	13	11- 3-58*	1
2017	9	10- 8-58	4
2029	11½	10-27-58	1
2035	11½	10-27-58	6
2117	13	10-20-58	5
2125	10½	10-29-58	6
2139	9½	11- 3-58	8
2215	10½	10- 7-58	5
2229	8½	10- 9-58	2
2237	12	10-13-58	4
2315	8½	10- 7-58	2
2327	9½	10- 9-58	5
2339	11½	10-14-58	3
2417	10½	10- 8-58	6
2425	10½	10-10-58	1
2439	13	10-22-58	3
2515	10½	10- 8-58	3
2529	14	10-16-58	1
2537	8	10-27-58	6

* Illness of teacher necessitated doubling schedule.

TABLE BI (continued)

Record Number	No. of Pages in Record	Observation Date	Observation Team
2610	12	11- 5-58	7
2620	10	11- 7-58	9
2630	10	11-17-58	5
2717	13½	11- 4-58	1
2729	15	11-10-58	5
2738	12	11-19-58	2
2817	10½	11- 4-58	7
2828	9½	11-10-58	2
2839	9½	11-19-58	5
2919	11½	11- 7-58	1
2927	12½	11-10-58	4
2938	10½	11-13-58	3
3015	12½	11- 5-58	1
3027	13	11-12-58	6
3039	14	11-17-58	3
3117	10	11- 5-58	3
3125	9½	11- 7-58	8
3139	11½	11-12-58	1
3217	11½	11- 4-58	9
3228	10½	11-12-58	2
3239	11½	11-19-58	3
3317	10	11- 4-58	2
3328	10½	11-10-58	3
3339	11½	11-20-58	4
3415	10½	11- 5-58	8
3429	11½	11- 7-58	2
3437	12	11-17-58	4
3517	9½	12- 7-58	10
3529	7	12-10-58	5
3535	8½	12-21-58	4

Appendix B-5

TABLE BII

ORDER OF OBSERVATIONS

Teacher Number	Observation Number 1	Observation Number 2	Observation Number 3
1	Kindergarten	Kindergarten	Kindergarten
2	Activity	Reading	Arithmetic
3	Reading	Arithmetic	Social Studies
4	Reading	Arithmetic	Social Studies
5	Social Studies	Reading	Arithmetic
6	Reading	Activity	Arithmetic
7	Activity	Reading	Social Studies
8	Social Studies	Music	Reading
9	Social Studies	Reading	Arithmetic
10	Writing	Reading	Activity
11	Arithmetic	Reading	Social Studies
12	Arithmetic	Reading	Activity
13	Social Studies	Reading	Activity
14	Arithmetic	Reading	Activity
15	Arithmetic	Reading	Social Studies
16	Spelling	Social Studies	Reading
17	Reading	Social Studies	Activity
18	Social Studies	Activity	Reading
19	Social Studies	Reading	Activity
20	Reading	Activity	Social Studies
21	Reading	Social Studies	Activity
22	Social Studies	Acitivity	Reading
23	Social Studies	Reading	Activity
24	Reading	Social Studies	Activity
25	Social Studies	Activity	Reading

TABLE BII (continued)

Teacher Number	Observation Number 1	Observation Number 2	Observation Number 3
26	Kindergarten	Kindergarten	Kindergarten
27	Reading	Activity	Arithmetic
28	Reading	Arithmetic	Activity
29	Activity	Reading	Arithmetic
30	Social Studies	Reading	Activity
31	Reading	Social Studies	Activity
32	Reading	Arithmetic	Social Studies
33	Reading	Arithmetic	Social Studies
34	Social Studies	Activity	Reading
35	Reading	Social Studies	Activity

Appendix B-7

TABLE BIII

ANALYSIS OF VARIANCE--ORDER OF OBSERVATION*

Source of Variation	Sum of Squares	df	Estimated Variance	F
Order of Observation	219.32	2	109.66	.32[a]
Categories	913539.26	6	152256.54	267.22[b]
Teachers	21780.93	34		
Interaction: Obser. x Cat.	5234.88	12	436.24	1.28
Interaction: Obser. x Tch.	23662.17	68	347.97	1.02
Interaction: Cat. x Tch.	116235.71	204	569.78	1.67[b]
Interaction: Obser. x Cat. x Tch.	139506.16	408	341.93	
Total	1220178.43	734		

*All thirty-five teachers involved.

[a] Note non-significance.

[b] Significant at the .001 level.

TABLE B IV

CONTENT OF OBSERVATIONS

Tch. No.	Reading (33)*	Activity (25)	Social Studies (23)	Arithmetic (15)	Additional Content (9)
1					0110-0120 0130-Kgdn.
2	0227	0219		0238	
3	0317		0335	0328	
4	0417		0435	0428	
5	0527		0515	0538	
6	0617	0629		0638	
7	0727	0719	0735		
8	0837		0815		0824-Music
9	0927		0915	0938	
10	1027	1039			1013-Writing
11	1127		1135	1118	
12	1227	1239		1218	
13	1327	1339	1315		
14	1427	1439		1418	
15	1527		1535	1518	
16	1637		1625		1612-Spelling

* The numbers in parentheses indicate the teacher-records with content categorized as indicated.

TABLE BIV (continued)

Tch. No.	Reading	Activity	Social Studies	Arithmetic	Additional Content
17	1717	1739	1725		
18	1837	1829	1815		
19	1927	1939	1915		
20	2017	2029	2035		
21	2117	2139	2125		
22	2237	2229	2215		
23	2327	2339	2315		
24	2417	2439	2425		
25	2537	2529	2515		
26					2610-2620 2630-Kdgn.
27	2717	2729		2738	
28	2817	2839		2828	
29	2927	2919		2938	
30	3027	3039	3015		
31	3117	3139	3125		
32	3217	3239		3228	
33	3317	3339		3328	

TABLE BIV (continued)

Tch. No.	Reading	Activity	Social Studies	Arithmetic	Additional Content
34	3437	3429	3415		
35	3517	3529	3535		

APPENDIX C

(Materials Related to Chapter IV)

Appendix C-1

TABLE CI

SCHEDULE OF RECORD CODING

Record Number	Date of Coding	Coding Team	Record Number	Date of Coding	Coding Team
0110	4-29-59	4	0915	5-11-59	6
0120	2-26-59	2	0927	2-26-59	5
0130	5-20-59	5	0938	4-21-59	3
0219	5-15-59	6	1013	4-28-59	3
0227	3-10-59	5	1027	3- 5-59	4
0238	4-22-59	5	1039	6- 4-59	1
0317	2-18-59	1	1118	4-21-59	2
0328	4-20-59	4	1127	2-26-59	1
0335	5-11-59	4	1135	5-13-59	5
0417	2-17-59	-*	1218	4-22-59	4
0428	4-20-59	5	1227	2-25-59	6
0435	5- 8-59	3	1239	5-27-59	5
0515	4-20-59	2	1315	5- 8-59	1
0527	2-20-59	-*	1327	3- 2-59	4
0538	4-16-59	6	1339	5-21-59	6
0617	2-23-59	6	1418	4-22-59	3
0625	5-14-59	2	1427	3-11-59	5
0638	4-21-59	1	1439	6- 5-59	4
0719	4-27-59	5	1518	4-17-59	1
0727	2-25-59	5	1527	2-19-59	-*
0735	5- 7-59	6	1535	5-21-59	2
0815	5-14-59	3	1612	4-28-59	1
0824	4-27-59	4	1625	5-20-59	2
0837	2-27-59	2	1637	3-31-59	3

* Consensus coding

TABLE CI (continued)

Record Number	Date of Coding	Coding Team	Record Number	Date of Coding	Coding Team
1717	3- 4-59	4	2515	5-12-59	2
1725	5-11-59	1	2529	5-29-59	2
1739	5-22-59	5	2537	3- 2-59	3
1815	5-20-59	1	2610	5-26-59	1
1829	6- 3-59	2	2620	2-23-59	6
1837	3-19-59	1	2630	5-11-59	5
1915	5-14-59	3	2717	3- 9-59	4
1927	3-30-59	3	2729	6- 2-59	6
1939	6- 2-59	2	2738	4-27-59	6
2017	3-19-59	5	2817	3-30-59	4
2029	6- 3-59	4	2828	4-24-59	2
2035	5-21-59	2	2839	4-28-59	2
2117	3-31-59	2	2919	5-22-59	4
2125	5-13-59	4	2927	2-20-59	-*
2139	5-28-59	3	2938	4-17-59	2
2215	5-20-59	4	3015	5-20-59	5
2229	6- 3-59	5	3027	3-11-59	6
2237	3-31-59	2	3039	6- 4-59	1
2315	5-16-59	6	3117	3-19-59	2
2327	3-18-59	1	3125	5-14-59	1
2339	4-29-59	6	3139	5-28-59	4
2417	3-31-59	3	3217	3-30-59	6
2425	5-20-59	6	3228	4-23-59	1
2439	4-30-59	1	3239	6- 5-59	3

* Consensus coding

TABLE CI (continued)

Record Number	Date of Coding	Coding Team
3317	3- 5-59	3
3328	4-20-59	6
3339	5-25-59	4
3415	4-29-59	5
3429	5-26-59	3
3437	2-16-59	-*
3517	6- 9-59	7
3529	6-11-59	7
3535	6-10-59	7

* Consensus coding

Appendix C-4

TABLE CII

SUMMARY ANALYSIS OF MAJOR SOURCES OF CODING DISAGREEMENTS

I.	Total Acts for Reliability	5467
	Number of Agreements	4450
	Number of Disagreements	1017
	Percentage of Agreements	81.3%
	Correction for Intra-category Agreement	83.6%
II.	Breakdown of Disagreements	
	Number of times functions (acts) were omitted	429
	Number of times Regulate was omitted because linked with Structure (when Structure was coded something else--for example, Clarify)	77
	Number of times Structure was omitted because linked with Regulate (the coding being Regulate-closed-direction)	40
	Number of times Regulate-self was omitted because linked with Structure-self	1
	Number of times when paired functions were in disagreement	470
TOTAL NUMBER OF DISAGREEMENTS		1017

Appendix C-5

TABLE CIII

DISTRIBUTION OF DISAGREEMENTS ON RECODING ACCORDING TO CONTENT OF SITUATION

Kind of Situation	Number of Omissions	Per Cent Omissions Are of Total Errors	Number of Disagreements	Per Cent Disagreements Are of Total Errors	Omissions and Disagreements Resulting in Total Errors
Reading	152	45.6	181	54.4	333
Activity	83	35.9	148	64.1	231
Social Studies	84	41.1	120	58.9	204
Arithmetic	73	48.9	76	51.1	149
Kindergarten	10	45.4	12	54.6	22
All others	27	34.6	51	65.4	78
Totals	429	42.2	588	57.8	1017

Appendix C-6

TABLE CIV

ANALYSIS OF PERCENTAGE OF AGREEMENT ON RECODING ACCORDING TO CONTENT OF RECORD

Content of Record	Total Pages	Total Acts	No. of Records	Pages for Reliability	Total Acts for Reliability	Number of Disagreements	Number of Agreements	Percentage of Agreements
Reading	360.5	8927	33	82	1860	333	1527	82.1
Activity	281	5746	25	56	1156	231	925	80.0
Social Studies	237.5	5673	23	47	1135	204	931	82.0
Arithmetic	157	4072	15	31	847	149	698	82.4
Kinder-garten	59.5	1209	6	12	324	78	246	75.6
Other	30	758	3	6	145	22	123	84.8
Totals	1125.5	26,385	105	234	5467*	1017	4450	81.4
Mean per record	10.7	251		2.1				
Mean per teacher	32.1	754		6.4				

*Per cent of total acts coded: 20.7

TABLE CV

PERCENTAGE OF AGREEMENT ON RECODING ACCORDING TO TEACHER

Teacher Number	Total Acts Recoded	Inter-category Disagreements	Intra-category Disagreements	Omissions	Total Disagreements	Total Agreements	Percentage of Agreement	Percentage of Agreement with Intra-category Correction
01	134	20	1	12	33	101	75.3	76.1
02	216	9	2	24	35	181	83.8	84.7
03	165	16	3	11	30	135	81.8	83.6
04	140	6	4	4	14	126	90.0	92.8
05	139	5	4	14	23	116	83.4	86.3
06	144	24	2	17	43	101	70.1	71.5
07	161	14	7	9	30	131	81.3	85.7
08	147	10	3	12	25	122	82.9	85.0
09	177	12	1	14	27	150	84.7	85.3

TABLE CV (continued)

Teacher Number	Total Acts Recoded	Inter-category Disagreements	Intra-category Disagreements	Omissions	Total Disagreements	Total Agreements	Percentage of Agreement	Percentage of Agreement with Intra-category Correction
10	171	18	2	12	32	139	81.2	82.4
11	154	10	7	8	25	129	83.7	88.3
12	119	19	2	9	30	89	74.7	76.4
13	114	10	7	9	26	88	77.2	83.3
14	127	13	4	15	32	95	74.8	77.9
15	121	15	5	12	32	89	73.6	77.6
16	138	7	-	6	13	125	90.6	90.6
17	145	11	5	4	20	125	86.2	89.6
18	142	11	4	21	36	106	74.6	77.4
19	179	13	4	8	25	154	86.0	88.2

TABLE CV (continued)

Teacher Number	Total Acts Recoded	Inter-category Disagreements	Intra-category Disagreements	Omissions	Total Disagreements	Total Agreements	Percentage of Agreement	Percentage of Agreement with Intra-category Correction
20	160	8	3	16	27	133	83.1	85.0
21	206	12	8	20	40	166	80.6	84.4
22	138	13	3	13	29	109	78.9	81.1
23	172	7	4	11	22	150	87.2	89.5
24	141	23	5	8	36	105	74.4	78.0
25	145	24	6	7	37	108	74.4	78.6
26	190	25	5	15	45	145	76.3	78.9
27	229	14	4	14	32	197	86.0	87.7
28	173	13	4	25	42	131	75.7	78.0
29	188	19	1	12	32	156	82.9	83.5

TABLE CV (continued)

Teacher Number	Total Acts Recoded	Inter-category Disagreements	Intra-category Disagreements	Omissions	Total Disagreements	Total Agreements	Percentage of Agreement	Percentage of Agreement with Intra-category Correction
30	179	16	2	10	28	151	84.3	85.4
31	144	10	1	16	27	117	81.2	81.9
32	164	8	7	12	27	137	83.6	87.8
33	143	9	2	12	23	120	83.9	85.3
34	148	17	1	6	24	124	83.7	84.4
35	114	4	0	11	15	99	86.8	86.8
Total	5467	465	123	429	1017	4450	81.4	83.6

Appendix D

Materials Related to Chapter V

Appendix D-1

TABLE DI

BASE DATA SHEET: TEACHER RECORDS

Major Study and Pilot Study

Record No.	Total Items	Controlling No.	Controlling %	Imposition No.	Imposition %	Facilitating No.	Facilitating %	Content No.	Content %	Responsive No.	Responsive %	Positive No.	Positive %	Negative No.	Negative %
0110	173	46	27	13	8	34	20	23	13	28	16	19	10	10	6
0120	191	95	50	6	3	20	10	17	9	13	7	27	14	13	7
0130	181	80	44	5	3	17	9	27	15	13	7	14	8	25	14
Total	545	221	41	24	4	71	13	67	12	54	10	60	11	48	9
0227	316	168	53	6	2	26	8	32	10	5	2	52	16	27	9
0238	333	187	56	7	2	22	7	48	14	8	2	29	9	32	10
0219	261	97	37	5	2	13	5	42	16	14	6	45	17	45	17
Total	910	452	50	18	2	61	7	122	13	27	3	126	14	104	11
0317	290	155	53	7	2	29	10	50	17	17	6	24	8	8	3
0335	232	114	49	9	4	18	8	35	15	9	4	29	12	18	8
0328	262	169	64	7	3	25	9	23	9	2	1	15	6	21	8
Total	784	438	56	23	3	72	9	108	14	28	4	68	9	47	6
0417	201	96	48	9	5	14	7	29	14	17	8	19	10	17	8
0435	175	86	49	1	1	12	7	20	11	7	4	36	21	13	7
0428	250	151	60	11	4	10	4	36	15	3	1	26	11	13	5
Total	626	333	53	21	3	36	6	85	14	27	4	81	13	43	7
0527	168	54	32	5	3	9	5	41	24	20	12	25	15	14	9
0515	218	85	39	17	8	18	8	38	17	15	7	32	15	13	6
0538	317	171	54	11	3	27	9	63	20	7	2	13	4	25	8
Total	703	310	44	33	5	54	8	142	20	42	6	70	10	52	7
0617	212	113	53	5	2	17	8	25	12	9	4	20	10	23	11
0638	232	108	47	2	1	11	5	31	13	10	4	37	16	33	14
0629	221	111	50	5	2	33	15	19	9	14	6	14	6	25	11
Total	665	332	50	12	2	61	9	75	11	33	5	71	11	81	12
0727	324	139	43	9	3	21	6	52	16	14	4	45	14	44	14
0735	232	109	47	3	1	9	4	29	12	6	3	26	11	50	22
0719	224	89	40	4	2	11	5	31	14	9	4	32	14	48	21
Total	780	337	44	16	2	41	5	112	14	29	4	103	13	142	18
0837	293	175	60	6	2	16	5	26	9	6	2	22	8	42	14
0815	178	76	42	2	1	17	10	17	10	11	6	18	10	37	21
0824	255	117	46	15	6	21	8	14	5	3	1	20	8	65	26
Total	726	368	51	23	3	54	7	57	8	20	3	60	8	144	20
0927	249	136	54	2	1	24	10	34	14	4	2	26	10	23	9
0915	323	159	49	12	4	27	8	44	14	14	4	35	11	32	10
0938	327	186	57	-	-	18	6	47	14	6	2	30	9	40	12
Total	899	481	53	14	1	69	8	125	14	24	3	91	10	95	11
1027	308	169	55	11	4	16	5	33	11	7	2	23	7	49	16
1013	188	60	32	10	5	20	11	28	15	11	6	22	12	37	19
1039	243	93	38	17	7	10	4	35	15	8	3	25	10	55	23
Total	739	322	44	38	5	46	6	96	13	26	4	70	9	141	19
1127	282	135	48	3	1	25	9	28	10	8	3	39	14	44	15
1135	242	100	41	3	1	8	3	48	20	12	5	45	19	26	11
1118	210	73	35	1	-	22	11	26	12	20	10	40	19	28	13
Total	734	308	42	7	1	55	8	102	14	40	5	124	17	98	13
1227	224	91	42	5	2	23	10	46	20	19	8	29	13	11	5
1218	369	223	60	3	1	17	5	33	9	3	1	60	16	30	8
1239	247	34	14	4	2	17	7	79	32	31	12	66	27	16	6
Total	840	348	41	12	1	57	7	158	19	53	6	155	19	57	7
1327	207	94	45	19	9	16	8	38	18	11	5	21	10	8	4
1315	220	101	46	4	2	10	4	47	21	6	3	33	15	19	9
1339	195	50	25	17	9	5	3	27	14	35	18	21	11	40	20
Total	622	245	39	40	7	31	5	112	18	52	8	75	12	67	11
1427	190	86	45	5	3	31	16	12	6	19	10	5	3	32	17
1418	198	106	53	12	6	20	10	11	6	8	4	21	11	20	10
1439	147	51	35	5	4	15	10	21	14	31	21	12	8	12	8
Total	535	243	46	22	4	66	12	44	8	58	11	38	7	64	12

Appendix D-2

TABLE DI (continued)

BASE DATA SHEET: TEACHER RECORDS

Major Study and Pilot Study

Record No.	Total Items	Controlling No.	Controlling %	Imposition No.	Imposition %	Facilitating No.	Facilitating %	Content No.	Content %	Responsive No.	Responsive %	Positive No.	Positive %	Negative No.	Negative %
1527	218	78	36	3	1	14	6	58	27	7	3	23	11	35	16
1535	191	81	42	1	1	10	5	25	13	11	6	29	15	34	18
1518	137	55	40	10	7	11	8	18	13	5	4	8	6	30	22
Total	546	214	39	14	2	35	7	101	19	23	4	60	11	99	18
1637	235	84	36	9	4	4	2	89	37	5	2	24	10	20	9
1625	204	97	47	8	4	13	6	47	23	12	6	22	11	5	2
1612	315	182	58	3	1	7	2	63	20	8	3	39	12	13	4
Total	754	363	48	20	3	24	3	199	26	25	4	85	11	38	5
1717	358	197	55	11	3	29	8	45	13	5	1	55	15	16	5
1725	282	174	61	5	2	8	3	47	16	8	3	16	6	24	9
1739	208	86	41	4	2	10	5	33	16	14	7	37	18	24	11
Total	848	457	54	20	2	47	5	125	15	27	3	108	13	64	8
1837	368	203	55	17	5	15	4	45	12	11	3	43	12	34	9
1815	263	115	44	9	3	15	6	50	19	10	4	35	13	29	11
1829	276	161	58	9	3	14	5	26	10	6	2	30	11	30	11
Total	907	479	53	35	4	44	5	121	13	27	3	108	12	93	10
1927	288	189	65	4	1	10	4	40	14	10	4	24	8	11	4
1915	315	218	69	1	-	11	3	49	16	2	1	24	8	10	3
1939	342	238	70	4	1	14	4	25	7	5	1	20	6	36	11
Total	945	645	68	9	1	35	4	114	12	17	2	68	7	57	6
2017	260	110	42	6	2	16	6	41	16	13	5	52	20	22	9
2035	316	144	46	7	2	12	4	63	20	11	3	69	22	10	3
2029	271	77	28	7	5	41	15	36	13	26	9	56	20	28	10
Total	847	331	39	20	2	69	8	140	17	50	6	177	21	60	7
2117	390	190	49	2	1	29	7	51	13	12	3	63	16	43	11
2125	321	159	50	7	2	11	3	57	18	11	3	50	16	26	8
2139	226	117	52	9	4	13	6	26	11	11	5	20	9	30	13
Total	937	466	50	18	2	53	6	134	14	34	4	133	14	99	10
2237	274	89	32	3	1	19	7	65	24	10	4	36	13	52	19
2215	286	179	63	7	2	19	7	22	7	2	1	29	10	28	10
2229	185	75	41	8	4	10	5	24	13	16	9	17	9	35	19
Total	745	343	46	18	2	48	6	111	15	28	4	82	11	115	16
2327	341	161	47	6	2	21	6	52	15	6	2	34	10	61	18
2315	180	80	45	4	2	8	4	29	16	12	7	23	13	24	13
2339	260	69	26	5	2	51	19	31	12	20	8	30	12	54	21
Total	781	310	40	15	2	80	10	112	14	38	5	87	11	139	18
2417	224	128	57	3	1	22	10	19	8	17	8	28	13	7	3
2425	229	122	53	1	1	9	4	42	18	13	6	37	16	5	2
2439	208	41	20	2	1	23	11	55	26	41	20	37	18	9	4
Total	661	291	44	6	1	54	8	116	18	71	11	102	15	21	3
2537	202	93	46	6	3	22	11	23	11	10	5	31	15	17	8
2515	227	73	32	4	2	46	20	22	10	35	15	32	14	15	7
2529	235	88	37	4	2	18	8	25	11	22	9	33	14	45	19
Total	664	254	38	14	2	86	13	70	11	67	10	96	15	77	11
2610	221	77	35	7	3	21	10	37	17	36	16	32	14	11	5
2620	211	91	43	10	5	30	14	19	9	9	4	39	19	13	6
2630	232	124	53	7	3	17	7	36	16	9	4	23	10	16	7
Total	664	292	44	24	4	68	10	92	14	54	8	94	14	40	6
2717	285	133	47	11	4	26	9	54	19	31	11	24	8	6	2
2738	300	148	49	8	3	18	6	50	17	30	10	22	7	24	8
2729	338	134	40	8	2	37	11	66	20	28	8	50	15	15	4
Total	923	415	45	27	3	81	9	170	18	89	10	96	10	45	5
2817	288	148	51	7	2	17	6	39	14	2	1	33	11	42	15
2828	305	188	62	6	2	9	3	23	8	4	1	38	12	37	12
2839	154	31	20	11	7	17	11	21	14	19	12	34	22	21	14
Total	747	367	49	24	3	43	6	83	11	25	3	105	14	100	14

Appendix D-1

TABLE III (continued)

BASE DATA SHEET: TEACHER RECORDS

Major Study and Pilot Study

Record	Total	Controlling		Imposition		Facilitating		Content		Responsive		Positive		Negative	
No.	Items	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
2927	314	143	45	6	2	12	4	75	24	7	2	53	17	18	6
2938	278	121	43	11	4	16	6	50	18	2	1	59	21	19	7
2919	220	54	25	7	3	13	6	66	30	14	6	32	15	34	15
Total	812	318	39	24	3	41	5	191	23	23	3	144	18	71	9
3027	341	177	52	16	5	30	9	63	18	6	2	24	7	27	8
3015	321	152	47	8	3	23	7	72	23	14	4	52	16	20	6
3039	227	70	31	7	3	25	11	39	17	33	15	19	8	31	14
Total	891	399	45	31	3	78	9	174	20	53	6	75	8	78	9
3117	246	112	46	7	3	17	7	33	13	6	2	54	22	17	7
3128	208	81	39	6	3	12	6	56	27	4	2	35	17	14	6
3129	211	78	37	9	4	21	10	30	14	14	7	40	19	19	9
Total	665	271	41	22	3	50	8	119	18	24	4	129	19	50	7
3217	311	171	55	20	6	14	5	43	14	4	1	27	9	32	10
3220	282	156	55	8	3	16	6	47	17	3	1	22	8	30	10
3239	261	132	50	12	5	12	5	23	9	10	4	23	9	27	10
Total	854	459	54	40	5	42	5	113	13	17	2	72	8	89	10
3317	282	135	48	11	4	25	10	68	20	8	3	27	11	11	4
3328	272	142	52	7	3	14	5	49	18	7	3	41	15	19	7
3339	244	71	29	5	2	20	8	29	12	28	11	28	11	50	21
Total	798	348	44	23	3	59	7	146	18	43	5	96	12	80	10
3417	281	157	56	14	5	17	6	58	20	8	3	25	9	5	2
3419	270	152	56	2	1	13	5	54	20	1	0	33	12	5	2
3429	237	107	45	2	1	28	12	53	22	10	4	20	8	13	5
Total	788	416	53	18	2	58	7	165	21	19	2	78	10	23	3
3517	195	76	39	5	3	16	8	50	26	14	8	27	14	4	2
3530	236	123	52	2	1	11	5	53	22	15	6	21	9	12	5
3529	127	44	35	4	3	19	15	21	17	7	5	15	12	11	9
Total	558	243	44	11	2	46	8	124	22	36	7	63	11	27	5
A-1	162	58	37	2	1	18	11	19	11	6	4	15	9	54	33
A-2	168	37	22	1	1	24	16	17	12	25	15	15	9	37	22
A-3	155	18	12	0	0	10	7	65	42	8	6	23	17	15	11
A-4	171	38	22	2	1	11	7	70	41	2	1	15	9	29	17
Total	656	151	23	5	1	63	11	179	28	41	7	67	11	136	21
B-1	221	116	52	2	1	37	17	17	8	7	3	33	15	9	4
B-2	255	151	59	1	1	22	9	19	7	14	5	31	12	17	7
B-3	185	104	56	2	1	15	8	24	13	5	3	31	17	3	2
B-4	187	78	42	7	4	44	23	12	6	2	1	40	22	4	2
Total	848	449	53	12	1	118	14	72	9	28	3	135	16	33	4
C-1	230	115	50	1		13	6	59	26	16	7	15	6	11	5
C-2	170	70	41	1	1	16	9	23	14	9	5	41	24	10	6
C-3	165	57	35	5	3	42	25	6	4	3	2	30	18	22	13
C-4	130	36	28	7	5	28	22	18	14	12	9	18	14	11	8
Total	695	278	40	14	2	99	14	106	15	40	6	104	15	54	8
D-1	141	78	55			10	7	19	13	5	4	24	17	5	4
D-2	127	43	34	2	1	14	11	15	12	11	9	34	27	8	6
D-3	194	69	36			22	11	48	23	3	2	48	25	4	2
D-4	179	52	29	3	2	22	12	42	23	20	11	37	21	3	2
Total	641	242	38	5	1	68	11	124	19	39	6	143	22	20	3
E-1	49	19	39	4	8	6	12	5	10	2	4	4	8	9	19
E-2	209	79	38			5	2	92	44	1	1	29	14	3	1
E-3	114	39	34	9	7	14	14	13	11	4	4	19	17	15	13
E-4	53	12	23	1	2	13	25	2	4	7	13	10	19	8	15
Total	424	149	35	14	3	38	9	112	27	14	3	62	15	35	8
F-1	159	68	43	4	3	18	11	14	9	5	3	26	16	24	15
F-2	116	41	35	1	1	15	13	20	17	9	8	20	17	10	9
F-3	147	41	28			10	7	41	28	11	7	28	19	16	11
F-4	97	18	19	4	4	11	11	26	27	6	6	12	12	20	21
Total	519	168	32	9	2	54	10	101	20	31	6	86	16	70	14

Appendix D-4

TABLE III

DISTRIBUTION OF TOTAL TEACHER ACTS

Major Study

Teacher	Total Items		Controlling			Imposition			Facilitating			Content			Response			Positive			Negative		
	No.	Mean	No.	%	Mean	No.	%	Mean	No.	%	Mean	No.	%	Mean	No.	%	Mean	No.	%	Mean	No.	%	Mean
1	545	181.7	221	41	73.7	24	4	8.0	71	13	23.7	67	12	22.3	54	10	18.0	60	11	20.0	48	9	16.0
2	910	303.3	452	50	151.7	18	2	6.0	61	7	20.3	122	13	40.7	27	3	9.0	126	14	42.0	104	11	34.7
3	784	261.3	438	56	146.0	23	3	7.7	72	9	24.0	108	14	36.0	28	4	9.3	68	9	22.7	47	6	15.7
4	626	208.7	333	53	111.0	21	3	7.0	36	6	12.0	85	14	28.3	27	4	9.0	81	13	27.0	43	7	14.3
5	703	234.3	310	44	103.3	33	5	11.0	54	8	18.0	142	20	47.3	42	6	14.0	70	10	23.3	52	7	17.3
6	665	221.7	332	50	110.7	12	2	4.0	61	9	20.3	75	11	25.0	33	5	11.0	71	11	23.7	81	12	27.0
7	780	260.0	337	44	112.3	16	2	5.3	41	5	13.7	112	14	37.3	29	4	9.7	103	13	34.3	142	18	47.3
8	726	242.0	368	51	122.7	23	3	7.7	54	7	18.0	57	8	19.0	20	3	6.7	60	8	20.0	144	20	48.0
9	899	299.7	481	53	160.3	14	1	4.7	69	8	23.0	125	14	41.7	24	3	8.0	91	10	30.3	95	11	31.7
10	739	246.6	322	44	107.3	38	5	12.7	46	6	15.3	96	13	32.0	26	4	8.7	70	9	23.3	141	19	47.0
11	734	244.7	308	42	102.7	7	1	2.1	55	8	18.3	102	14	34.0	40	5	13.3	124	17	41.3	98	13	32.7
12	840	280.0	348	41	116.0	12	1	4.0	57	7	19.0	158	19	52.7	53	6	17.7	155	19	51.7	57	7	19.0
13	622	207.3	245	39	81.7	40	7	13.3	31	5	10.3	112	18	37.3	52	8	17.3	75	12	25.0	67	11	22.3
14	535	178.3	243	46	81.0	22	4	7.3	66	12	22.0	44	8	14.7	58	11	19.3	38	7	12.7	64	12	21.3
15	546	182.0	214	39	71.3	14	2	4.7	35	7	11.7	101	19	33.7	23	4	7.7	60	11	20.0	99	18	33.0
16	754	251.3	363	48	121.0	20	3	6.7	24	3	8.0	199	26	66.3	25	4	8.3	85	11	28.3	38	5	12.7
17	848	282.7	457	54	152.3	20	2	6.7	47	5	15.7	125	15	41.7	27	3	9.0	108	13	36.0	64	8	21.3
18	907	302.3	479	53	159.7	35	4	11.7	44	5	14.7	121	13	40.3	27	3	9.0	108	12	36.0	93	10	31.0
19	945	315.0	645	68	215.0	9	1	3.0	35	4	11.7	114	12	38.0	17	2	5.7	68	7	22.7	57	6	19.0
20	847	282.3	331	39	110.3	20	2	6.7	69	8	23.0	140	17	46.7	50	6	16.7	177	21	59.0	60	7	20.0
21	937	312.3	466	50	155.3	18	2	6.0	53	6	17.7	134	14	44.7	34	4	11.3	133	14	44.3	99	10	33.0
22	745	248.3	343	46	114.3	18	2	6.0	48	6	16.0	111	15	37.0	28	4	9.3	82	11	27.3	115	16	38.3
23	781	260.3	310	40	103.3	15	2	5.0	80	10	26.7	112	14	37.3	38	5	12.7	87	11	29.0	139	18	46.3
24	661	220.3	291	44	97.0	6	1	2.0	54	8	18.0	116	18	38.7	71	11	23.7	102	15	34.0	21	3	7.0
25	664	221.3	254	38	84.7	14	2	4.7	86	13	28.7	70	11	23.3	67	10	22.3	96	15	32.0	77	12	25.7

Appendix D-3

TABLE III (continued)

DISTRIBUTION OF TOTAL TEACHER ACTS

Major Study

Teacher	Total Items No.	Total Items Mean	Controlling No.	Controlling %	Controlling Mean	Imposition No.	Imposition %	Imposition Mean	Facilitating No.	Facilitating %	Facilitating Mean	Content No.	Content %	Content Mean	Response No.	Response %	Response Mean	Positive No.	Positive %	Positive Mean	Negative No.	Negative %	Negative Mean
26	664	221.3	292	44	97.3	24	4	8.0	68	10	22.7	92	14	30.7	54	8	18.0	94	14	31.3	40	6	13.3
27	923	307.7	415	45	138.3	27	3	9.0	81	9	27.0	170	18	56.7	89	10	29.7	96	10	32.0	45	5	15.0
28	747	249.0	367	49	122.3	24	3	8.0	43	6	14.3	83	11	27.7	25	3	8.3	105	14	35.0	100	14	33.3
29	812	270.7	318	39	106.0	24	3	8.0	41	5	13.7	191	23	63.7	23	3	7.7	146	18	48.7	71	9	23.7
30	891	297.0	399	45	133.0	31	3	10.3	81	9	27.0	176	20	58.7	53	6	17.7	75	8	25.0	78	9	26.0
31	665	221.7	271	41	90.3	22	3	7.3	50	8	16.7	119	18	39.7	26	4	8.7	129	19	43.0	50	7	16.7
32	854	284.7	459	54	153.0	40	5	13.3	42	5	14.0	115	13	38.3	17	2	5.7	72	8	24.0	109	13	36.3
33	736	245.3	329	45	109.7	23	3	7.7	59	8	19.7	132	18	44.0	27	4	9.0	92	12	30.7	74	10	24.7
34	792	264.0	418	53	139.3	18	2	6.0	58	7	19.3	170	21	56.7	19	2	6.3	75	10	25.0	25	3	8.3
35	558	186.0	243	44	81.0	13	2	4.3	46	8	15.3	128	23	42.7	38	7	12.7	63	11	21.0	27	5	9.0
Total Acts(1-35)	26,385		12,402			738			1918			4131			1289			3245			2664		
Total % Acts				47			3			7			16			5			12			10	
Total Mean Per Teacher	753.86		354.3			21.1			54.8			118.1			36.8			92.7			76.1		
Total SD	117.14		90.57			8.58			25.15			35.67			17.01			27.20			26.49		
Mean Per Observation		251.3			118.1			7.0			18.3			39.3			12.3			30.9			25.4

Pilot Study

A	596	149.0	121	20	30.3	5	1	1.3	63	11	15.8	169	28	42.3	41	7	10.3	67	11	16.8	130	22	32.5
B	848	212.0	449	53	112.3	12	1	3.0	119	14	29.8	72	9	18.0	28	3	7.0	135	16	33.8	33	4	8.3
C	695	173.8	278	40	69.5	14	2	3.5	99	14	24.8	106	15	26.5	40	6	10.0	104	15	26.0*	54	8	13.5
D	641	160.3	242	38	60.5	5	1	1.3	68	11	17.0	126	19	31.5	36	6	9.0	141	22	35.3	20	3	5.0
E	424	106.0	149	35	37.3	14	3	3.5	38	9	9.5	112	27	28.0	14	3	3.5	62	15	15.5	35	8	8.8
F	519	129.8	168	32	42.0	9	2	2.3	54	10	13.5	101	20	25.3	31	6	7.8	86	16	21.5	70	14	17.5
Total Acts (A-F)	3723		1407			59			441			686			190			597			342		
Total % Acts				38			2			12			18			5			16			9	

Appendix D-6

TABLE [illegible]

MEANS AND STANDARD DEVIATIONS FOR FORTY-ONE TEACHERS

Three Thirty-Minute Records*

Teacher	Total			Controlling			Imposition			Facilitating			Content			Response			Positive			Negative		
	Acts	M	SD	Acts	M	SD	Acts	M	SD	Acts	M	SD	Acts	M	SD	Acts	M	SD	Acts	M	SD	Acts	M	SD
1	545	181.7	6.49	221	73.7	20.4	24	8.0	3.56	71	23.7	7.3	67	22.3	6.29	54	18.0	7.07	60	20.0	5.35	45	15.0	5.98
2	910	303.3	31.6	452	150.7	38.6	18	6.0	.82	61	20.3	5.56	122	40.7	6.30	27	9.0	3.74	125	41.7	6.65	110	36.7	7.45
3	784	261.3	24.02	438	146.0	23.33	23	7.7	.62	72	24.0	4.54	108	36.0	11.04	28	9.3	6.18	68	22.7	5.66	47	15.7	5.86
4	626	208.7	30.83	333	111.0	28.6	21	7.0	4.32	36	12.0	1.63	85	28.3	6.60	27	9.0	5.09	81	27.0	6.58	43	14.3	3.12
5	703	234.3	62.04	310	103.3	49.96	33	11.0	6.9	54	18.0	7.35	142	47.3	11.3	42	14.0	5.35	70	23.3	7.35	52	17.3	5.56
6	665	221.7	7.42	332	110.7	-1.78	12	4.0	1.41	61	20.3	9.36	75	25.0	4.9	33	11	2.35	71	23.7	5.66	81	27.0	6.65
7	780	260.0	65.4	337	112.3	20.71	16	5.3	2.69	41	13.7	3.16	112	37.3	10.51	29	9.7	5.2	103	34.3	6.07	142	47.3	3.06
8	726	242.	67.8	368	122.7	40.51	23	7.7	7.9	54	18.0	2.16	57	19.0	5.09	20	6.7	3.23	60	20.0	1.63	144	48.0	13.2
9	899	299.7	35.6	481	160.3	20.70	14	4.7	5.22	69	23.0	3.74	125	41.7	5.30	26	8.7	4.32	91	30.3	3.55	95	31.7	6.75
10	739	246.3	49.2	322	107.3	45.73	38	12.7	2.95	46	15.3	4.23	96	32.0	2.94	26	8.7	1.52	70	23.3	1.76	141	47.0	7.48
11	734	244.7	29.18	308	102.7	25.24	7	2.3	1.02	55	18.3	7.49	102	34.0	9.94	40	13.3	5.00	124	41.3	3.30	98	32.7	7.91
12	840	280.0	63.6	348	116.0	79.15	12	4.0	.82	57	19.0	2.83	158	52.7	19.20	53	17.7	11.03	155	51.7	16.1	57	19.0	8.58
13	622	207.3	30.9	245	81.7	22.47	40	13.3	6.72	31	10.3	6.57	112	37.3	8.33	52	17.3	12.7	75	25.0	5.66	67	22.3	13.33
14	535	178.3	22.66	243	81.0	22.71	22	7.3	3.37	66	22.0	6.68	44	14.7	6.99	58	19.3	5.46	38	12.7	5.49	64	21.3	8.73
15	546	182.0	33.69	214	71.3	11.79	14	4.7	3.82	35	11.7	1.65	101	33.7	17.98	23	7.7	2.32	61	20.3	8.83	55	18.3	2.32
16	754	251.3	46.94	363	121.0	43.9	20	6.7	2.94	24	8.0	3.74	199	66.3	17.6	25	8.3	3.96	85	28.3	7.71	50	16.7	10.2
17	848	282.7	61.1	457	152.3	47.98	20	6.7	3.02	47	15.7	9.6	125	41.7	5.99	27	9.0	3.74	108	36.0	15.94	64	21.3	3.96
18	907	302.3	46.93	479	159.7	35.78	35	11.7	3.67	44	14.7	.87	121	40.3	10.40	27	9.0	2.16	108	36.0	5.65	94	31.3	2.16
19	945	315.0	22.04	645	215.0	20.11	9	3.0	1.41	35	11.7	1.65	114	38.0	9.9	17	5.7	3.28	68	22.7	1.63	57	19.0	10.93
20	847	282.3	24.6	331	110.3	27.49	20	6.7	-.47	69	23.0	12.84	140	46.7	11.6	50	16.7	6.57	177	59.0	7.26	60	20.0	7.48
21	937	312.3	67.39	466	155.3	30.09	18	6.0	2.94	53	17.7	7.58	134	44.7	11.3	34	11.3	.95	133	44.3	10.1	99	33.0	7.26
22	745	248.3	45.23	343	114.3	46.16	18	6.0	2.16	48	16.0	6.24	111	37.0	19.8	28	9.3	5.79	82	27.3	7.96	115	38.3	10.2
23	781	260.3	65.96	310	103.3	61.1	15	5.0	.82	80	26.7	17.95	112	37.3	20.5	38	12.7	5.66	87	29.0	6.55	159	53.0	10.13

Appendix D-7

TABLE DIII (continued)

MEANS AND STANDARD DEVIATIONS FOR FORTY-ONE TEACHERS

Three Thirty-Minute Records*

	Total			Controlling			Imposition			Facilitating			Content			Response			Positive			Negative		
Teacher	Acts	M	SD	Acts	M	SD	Acts	M	SD	Acts	M	SD	Acts	M	SD	Acts	M	SD	Acts	M	SD	Acts	M	SD
24	661	220.3	9.74	291	97.0	39.63	6	2.0	.82	56	18.0	6.38	116	38.7	16.76	71	23.7	12.3	102	34.0	6.24	21	7.0	1.63
25	664	221.3	14.56	254	84.7	8.16	14	4.7	.76	86	28.7	12.27	70	23.3	1.76	67	22.3	10.28	96	32.0	.82	77	25.7	15.63
26	664	221.3	9.4	292	97.3	19.9	24	8.0	1.41	68	22.7	5.3	92	30.7	8.14	54	18.0	12.73	94	31.3	4.71	40	13.3	2.20
27	923	307.7	21.07	415	138.3	7.49	27	9.0	1.41	81	27.0	7.79	170	56.7	6.51	89	29.7	-.48	96	32.0	13.98	45	15.0	7.35
28	747	249.0	67.56	367	122.3	66.67	24	8.0	2.16	43	14.3	3.9	83	27.7	7.96	25	8.3	7.62	105	35.0	2.16	100	33.3	9.06
29	812	270.7	38.47	318	106.0	37.61	24	8.0	2.16	41	13.7	1.63	191	63.7	10.11	23	7.7	6.07	144	48.0	1.79	71	23.7	7.31
30	891	297.0	50.3	399	133.0	45.7	31	10.3	4.11	81	27.0	2.94	170	56.6	15.93	53	17.7	11.5	75	25.0	3.35	78	26.0	6.55
31	665	221.7	22.09	271	90.3	19.96	22	7.3	1.43	50	16.7	3.53	119	39.7	11.5	24	8.0	4.32	120	40.0	8.04	32	10.7	1.76
32	854	284.7	20.03	459	153.0	16.06	40	13.3	5.08	48	16.0	1.63	115	38.3	9.7	17	5.7	3.03	78	26.0	2.16	100	33.3	7.76
33	736	245.3	20.97	329	109.7	29.2	23	7.7	2.39	59	19.7	6.38	132	44.0	5.66	27	9.0	5.09	92	30.7	7.27	74	24.7	15.07
34	792	264.0	19.3	418	139.3	21.77	18	6.0	5.66	58	19.3	6.44	179	59.7	5.91	19	6.3	3.91	75	25.0	5.72	25	8.3	6.77
35	558	186.0	44.94	243	81.0	30.44	13	4.3	1.70	46	15.3	3.68	128	42.7	11.7	38	12.7	3.92	63	21.0	6.9	27	9.0	3.56
A	596	149.0	13.5	121	30.3	8.26	5	1.3	.75	63	15.8	5.53	169	42.3	24.3	41	10.3	6.79	67	16.8	3.67	130	32.5	12.31
B	848	212.0	28.67	449	112.3	26.61	12	3.0	2.30	119	29.8	11.30	72	18.0	6.3	28	7.0	4.40	135	33.8	3.21	33	8.3	5.44
C	695	173.8	35.7	278	69.5	28.9	14	3.5	2.6	99	24.8	11.54	106	26.5	13.75	40	10.0	6.75	104	26.0	10.52	54	13.5	6.92
D	641	160.3	26.9	242	60.5	13.74	5	1.3	1.25	68	17.0	5.2	124	31.0	14.2	39	9.8	6.54	143	35.8	8.34	20	5.0	1.87
E	424	106.0	65.1	149	37.5	25.7	14	3.5	3.5	38	9.5	6.03	112	28.0	30.5	14	3.5	2.29	64	15.5	9.40	33	8.3	6.10
F	519	129.8	24.3	168	42.0	17.73	9	2.3	1.72	54	13.5	3.20	101	25.3	9.92	31	7.8	2.22	86	21.5	6.23	70	17.5	5.17
Total Acts	30,108			13,809			797			2319			4815			1482			3040			2601		
Mean Per Teacher Record		232.5			105.3			5.7			18.4			37.1			11.5			23.7			23.4	
SD (129 Records)			66.0			49.5			6.23			8.7			18.0			8.4			10.8			13.6

*Six teachers of the Pilot Study (A-F) had four thirty-minute Records

Appendix D-8

TABLE DIV

DISTRIBUTION OF RECORDS WITH TEN PER CENT OR MORE OF THE TOTAL ACTS IN POSITIVE AFFECTIVITY

10% - 12%				13% - 16%				17% and Over			
Record Number	Total Acts	Positive No.	Positive %	Record Number	Total Acts	Positive No.	Positive %	Record Number	Total Acts	Positive No.	Positive %
F-4	97	12	12	1218	369	60	16	D-2	127	34	27
B-2	255	31	12	F-1	159	26	16	1239	247	66	27
2828	305	38	12	2425	229	37	16	D-3	194	48	25
1837	368	43	12	2117	390	63	16	C-2	170	41	24
3529	127	15	12	2125	321	50	16	2035	316	69	22
2339	260	30	12	0227	316	52	16	3117	246	54	22
1625	204	22	12	0638	232	37	16	B-4	187	40	22
1612	315	39	12	2919	220	32	15	2839	154	34	22
3415	274	33	12	B-1	221	33	15	D-4	179	37	21
0335	232	29	12	2537	202	31	15	2938	278	59	21
1013	188	22	12	1717	358	55	15	0435	175	36	21
2817	288	33	11	3328	272	41	15	2017	260	52	20
0428	250	26	11	1315	220	33	15	2029	271	56	20
0735	232	26	11	1535	191	29	15	3139	211	40	19
3317	242	27	11	0527	168	25	15	1135	242	45	19
3339	222	24	11	0515	218	32	15	1118	210	40	19
1339	195	21	11	2729	338	50	15	F-3	147	28	19
1829	276	30	11	1127	282	39	14	E-4	53	10	19
1527	218	23	11	2515	227	32	14	2620	211	39	19
0915	323	35	11	2529	235	33	14	2439	208	37	18
1418	198	21	11	E-2	209	29	14	C-3	165	30	18

TABLE DIV (continued)

DISTRIBUTION OF RECORDS WITH TEN PER CENT OR MORE OF THE TOTAL ACTS IN POSITIVE AFFECTIVITY

10% - 12%				13% - 16%				17% and Over			
Record Number	Total Acts	Positive		Record Number	Total Acts	Positive		Record Number	Total Acts	Positive	
		No.	%			No.	%			No.	%
2630	232	23	10	C-4	130	18	14	1739	208	37	18
0417	201	19	10	2610	221	32	14	D-1	141	24	17
1327	207	21	10	0727	324	45	14	3125	208	35	17
2327	341	34	10	0719	224	32	14	2927	314	53	17
2215	286	29	10	3517	195	27	14	F-2	116	20	17
0617	212	20	10	0120	191	27	14	B-3	185	31	17
0110	173	19	10	1227	224	29	13	E-3	114	19	17
1637	235	24	10	2417	224	28	13	0219	261	45	17
0927	249	26	10	1815	263	35	13	A-3	135	23	17
1039	243	25	10	2315	180	23	13				
3015	321	32	10	2237	274	36	13				
0815	178	18	10								

Appendix E

Two Records of Superior Teaching

Appendix E-1

Record 2439

SITUATION: Activity or Work Period.

When the observers went into the room, the teacher explained that she was expecting them at 2:30 rather than 1:30. She said it would be quite possible, however, to move into an activity period and fulfil the requirements of the research design. Students were engaged in the completion of an arithmetic assignment.

T: Boys and girls, will you put your pencils down. There has been a mix-up on time. Our visitors are here and we expected them at 2:30. You see it is 1:25 now. We expected to have our activity period at 2:30, but we will have it now. (Some students start to move about)

T: Just a minute, let's see how quietly you can take your arithmetic papers, fold them like this, (Demonstrates) put them in your book, and clear your desks. (Pauses while desks are cleared) Now, is there anyone in this row who does not have a mask to work on? (Hand) Dan, will you help Howard today? (Teacher moves to stand in front of next row) Anyone in this row who doesn't have a mask to work on? (Hands)

T: Ellen, will you help Joyce. Anyone else in these three rows who needs help? (John raises hand)

T: David, please help John to get started. Fred, could you help Bill.

Bill: I don't want a helper today.

T: You don't want anyone to help you? All right, see me when the others have started their work, and we'll see if we can find something you'd be interested in doing. (Teacher moves to other side of room in front of class)

T: All right, the people in these three rows may go over to the table, get your masks, and go to work.

Ch: (Asks a question)

T: (Nods "yes") (Waits while children pick up their masks and go back to their desks) All right, there's room for this row now to get their things.

Ch: (Goes to teacher with question)

Appendix E-2

T: Yes. (Smiles and nods head)

T: All right, the people in this row may get their things now. (Waits for majority of group to get masks) Now, the people in this row. (Stands in front of last row of children)

Ch: (Goes to teacher with question or request)

T: Yes, if you want to.

Ch: (Request or question)

T: Yes, we'll see if we can find something for you.

Same child: (Continued)

T: Whatever you like.

T: (To a boy who was helping another start a mask by tying a cloth around his head in preparation for fitting mask base to his face and marking a place for the features) Not with your pencil, John. Don't hurt your eyes. Use a crayon to mark where to cut out the eyes. (Teacher gets crayon from desk; hands it to child) Here.

Ch: My paper is gone.

T: Your paper is gone?

Ch: Someone has taken it.

T: Why don't you get some more paper from the box?

Ch: It's gone.

T: Maybe someone put the paper away. It was on the desk. Let's look in the cupboard. (Teacher and child go to the cupboard) My error. We'll cut some.

Ch: (Asks teacher for help in deciding the kind of face to have on the mask she was making)

T: All right, think of what you'd like to make.

Ch: I don't know. What do you think would . . . . . .

T: Why don't you surprise me? It's up to you; you can make anything you'd like.

(Child brings note in from office. Teacher reads it and speaks to office helper)

Appendix E-3

T: I can't do this for you right now, honey. Will it be all right if I do it later?

Ch: (Needs help on mask)

T: What do you plan to be, Linda?

Ch: I don't know, except I do have my costume and everything.

T: Oh, well, what kind of a costume is it? Maybe you could make the mask to go with it.

Ch: But the costume has the mask and everything.

T: What are you going to do with the mask then?

Ch: I'm going to give it to my sister.

T: What will she do with it?

Ch: She doesn't know she's getting it. I'm surprising her.

T: Well, what does your sister like?

Ch: . . . . animals and . . . .

T: Animals. Usually it's the nose that makes the mask look like an animal. What kind of nose could you put on?

Ch: A big long one.

T: All right.

T: (To child who is waiting and now asks for help) Go back to your desk; raise your hand and I'll come to you.

Another child: (Asks question about paint)

T: Yes, you'll find pink on the easel. Take what you need.

Ch: (As teacher walks by his desk) Am I ready to paint the face on now?

T: Yes, I think you're ready now.

Ch: (Who is back to seat and is raising hand as teacher directed) Will you help me now?

Appendix E-4

T: Yes, I'll help. First, you take your paste and put it all over the base and then you're ready for the paper towel strips.

Another child: (Having difficulty putting ears on mask) Are these ears all right?

T: Why don't we go back and see what it looks like. Would you like a mirror so you can see?

Ch: Yes.

T: I'll get it. (Teacher and child go to cupboard at back of room to get mirror) Where will you put it so you can see?

Ch: On my desk.

T: Where are you sitting? You show me; there are so many people standing. (Child had pointed toward desk where she was working with partner, but the teacher's remark requests that the child lead the way)

(At the desk, the child puts on her mask; the teacher puts the mirror on the desk, and the child tries to look in the mirror and fit the ears onto the mask)

T: You hold the mirror and I'll hold your mask. (Teacher holds ears at different places on the mask) Does this answer your question? Do you know how you want them now?

Ch: No.

T: No? Well then you work with them a little more until you know.

Bill: (Who had said he didn't want a helper to work with masks) Miss Dayley.

T: Yes?

Bill: (Asks for help on personal project of writing)

T: Well, we'll have to talk about that later.

Ch: (Asks about his mask) Is that all right?

T: I think it's all right. What are you going to make?

Ch: A tramp, but I don't know how to make it look like one.

Appendix E-5

T: Can you describe a tramp for me?

Ch: . . . . . beard . . . bushy hair . . . . .

T: Then let's think of something that would work for a beard and bushy hair. What do you plan to make the hair with?

Ch: (Shrugs shoulders)

T: How did Mrs. Carter make hair? When she was here, what did she use? (Mrs. Carter is Art Supervisor for the district)

Ch: Black paper.

T: Black paper? Would you like to do that?

Ch: Yes.

T: There's some already cut right over there. (Points to cupboard shelf)

(Teacher moves on to other children)

Ch: I don't know how to . . . . .

T: You lay this on here like this. (Teacher takes Kleenex and places it carefully on top of mask as last layer) Take another layer, spread it across and pat it down.

Ch: What about here?

T: You do the same thing there. Then you let it dry and you're ready to paint.

Ch: (Stands waiting for the teacher) Would you come and see if I'm ready to paint?

T: All right; I'll come and see. (Follows child to desk for a quick look) I think so.

Ch: Is there any more paste?

T: I believe it is all out. Did you check?

Ch: I looked, but I didn't see any.

T: You didn't see any? Well, come with me and we'll see if I can. (Looks in cupboard and finds little bit in carton) I was mistaken. Will this be all right?

Appendix E-6

Ch: Miss Dayley, what is Steven making?

T: I don't know. He'll surprise us with it. (Teacher moves to other children)

Ch: (Asks question or makes request)

T: Pardon?

Ch: (Repeats)

T: Yes.

T: (Moves on to Susan who needs help again with mask's ears--picks up small piece of oak-tag on the way) Susan, would this be stiff enough for ears?

Susan: Yes.

T: (Picks up pink ears formerly cut out) Would it work if you pasted these down inside the stiff ones?

Susan: Yes.

T: Michael, where are you working?

Michael: Over there.

T: Okay, let's go look where you're working. (Goes with child to get him back to work)

Ch: Miss Dayley, we need paste instead of this.

T: It looks like all the cartons are gone. Let's see if we can get someone to share with you.

T: (To child who is not using his paste) If you don't need to paste right now, could Andy use this?

Ch: Yes.

T: (Moves paste to other desk and takes other materials) (Moves again and is unable to pass children standing in the aisle) Excuse me, could you work on the other side of your desk; then we could get by here.

Ch: Help . . . . . cut out the eyes . . . .

T: Where are the marks for the eyes?

Ch: (Indicates)

T: All right, cut it here.

David: Miss Dayley.

T: Yes, David.

David: Do you want this paste?

T: Well, if someone else needs paste.

Ch: (Still working on eyes) Like this, Miss Dayley?

T: Uhmhumm. (Means yes)

Ch: (Putting Kleenex on mask) Is this the way?

T: (Takes mask and redistributes Kleenex on it) You don't mind if I show you a minute. (Works on child's mask--pulls off large piece) Now can you get it so it's just a thin layer?

Ch: (Works again--is still having difficulty)

T: Round it. If you round it, it would be better.

T: (Moves to child holding up her hand) Yes, now what can I do to help?

Ch: Would you help me make a Chinese girl?

T: Would you want a smiling Chinese girl?

Ch: I don't know.

T: Well, do you want her happy?

Ch: Yes.

T: All right, then you'd make her a smiling mouth.

Ch: Shall I paint her mouth on now?

T: Which do you think should be first--the yellow all over for her skin, or her mouth?

Ch: The yellow.

T: I think so too.

Ch: How would you make her mouth?

Appendix E-8

T: Well, how would you make a smiling mouth, like this? (Places fingers to corner of mouth and pushes lips up into smile)

Ch: I don't know.

T: How would you make a mean mouth? This way or this way? (Teacher pushes corners of lips up and down again to illustrate)

Ch: That way is mean.

T: This way is mean? (Pushes corners down again)

Ch: Yes.

T: All right. Does that answer your question?

Ch: Yes.

(Another child holds hand up--teacher walks to other side of room to help)

Ch: Can you help me with my nose?

T: What's the matter with your nose? Are you going to make a clown?

Ch: Yes.

T: (Looks at mask) What happened to the thing that was holding it up?

Ch: Over there.

T: Would you get it so it will keep the nose from sticking where it's wet. (Waits to finish helping with nose)

Another child: I changed my mind about what I'm going to make.

T: You have a better idea?

Ch: Better than the one I had last year.

T: What were you last year?

Ch: Last year I was a devil. This year I'm going to be a girl.

T: You mean a girl fits your personality better?

Ch: Yah.

T: Were you in a parade last year?

Ch: Yes, we . . . . this year, girl.

T: What sort of hair will you have?

Ch: . . . . . out of . . . . . fool people.

T: That would surprise me too, Mike.

Ch: (Asks for help)

T: Do you need a pair of scissors to work with?

Ch: I know where some are. (Goes to get them)

Ch: (Brings newspaper back, wads it up for the nose) Here's the stuff.

(Teacher shows him how to use the paper in making the nose and moves to child with hand up)

Ch: Is this ready?

T: That'll be fine. Just pull a little like this to make it come off. (Teacher pulls fringes of Kleenex extending beyond the edge of mask)

T: (To another child) Just hold it like this. (To child's friend close by) She's having trouble with this. Would you help? My hands are dirty. (Child's friend helps)

T: (Goes to child who is trying to get started with his mask) Do you want to put it on your face like the other boys and girls did, or do you want to make it flat?

Ch: . . . . on face.

T: I'll wash my hands first and help you. (Child hands teacher a cloth; she wipes her hands off) Let's try it first, and then we can pin it. (Holds cloth up to boy's face) Were you going to trim the nose out at all?

Another child: Miss Dayley, is this the way?

T: (Turns to look at other child's mask) That's fine!

T: (Turns back to child she was helping) Now let's see if that fits. Can you see all right? Grab hold of the back part, Linda, and tie it. You can cut the extra off.

T: (Goes back to boy who is making the clown mask) You've made the nose.

Ch: Yah, but it won't . . . . .

T: Why don't you try it with . . . . (Helps again)

Another ch: Miss Dayley, should I paint it now?

T: No, not now, Grace, it must dry first. Do you want to put it outside? (Child hurries out with mask)

Ch: (Questions about mask)

T: Well, let's go see your mask. (Teacher follows child to her own desk)

T: (Child says something on the way, unheard by the observers, to which the teacher responds) You mean you want her to be happy? Now you watch what happens. (Teacher puts fingers in the corner of her own mouth and pushes her lips up and down at the corners) When I push my mouth up, the lines do what?

Ch: Make a smile.

T: When the lines go down what happens?

Ch: Makes it sad.

T: Then which way should you have the lines curving?

Ch: Curving up. (Shows lips she has cut out) Now what do you think I ought to do?

T: Well, what do we have here?

Ch: (Holds up lips and turns them different ways)

T: Would that work for the top lip? Let's try it on the mask and see.

(Child tries it on the mask while teacher's attention is taken by other children)

Ch: . . . . yellow paper.

Appendix E-11

T: Can you see over there where Jim is working with a whole bunch of yellow paper. Ask him if he can share some

Ch: (Shows mask to teacher) Is this all right?

T: Oh yes, that's fine!

Ch: Do I put on the Kleenex now?

T: You're right. Kleenex goes on next. (Goes to another child who has his hand up)

Ch: Will you help me make a girl's nose?

T: Let's see, you want a girl's nose. Is this to be a pretty girl? Now let's see, is that a good size, do you think? (Makes a nose)

Ch: Yes.

Ch: (Brings Kleenex not knowing what to do with it)

T: You have the Kleenex. You smooth the Kleenex on.

Ch: Like this?

T: Uhmhumm. Now we need a piece across the bottom. Let's go to your desk and see what we can figure out. (Goes with child--on the way another child shows her a mask and asks a question) Oh, that would be nice.

Ch: (With wet mask on face bumps into another child) Do you have glue on your hands?

Ch: No, but you have paste on your shirt.

Ch: I know it.

Ch: I'll get it off for you

Ch: (Tries red yarn on mask for hair)

T: Oh, that's cute. Have you thought of a way to put it on?

Ch: (Shows and tells her of a way to put it on)

T: I think that's fine. I was wondering what you would do.

Ch: (Making mouth on mask, finishes upper lip) Do I need a mouth underneath too?

T: What do you think? (Touches both her upper and lower lip) Do I have one underneath too?

Ch: (Asks about yarn)

T: What do you plan to do?

Ch: (Replies about use of yarn)

T: Make whatever you'd like.

Ch: (Shows teacher mask)

T: Ooooh! I think that's very ugly. What else does Frankenstein have?

Ch: Scars from his cuts.

T: Do you think it would be a good idea to let it dry before you paint the cuts on?

Ch: Well, it smears anyway when you put wet paint on for cuts. I painted it all. Maybe I could paste some cuts on.

T: Maybe while it is drying you could cut out some paper for the scars.

(Two boys come to teacher and ask about hair on masks)

T: Let's go to your seat. (She accompanies them) (Then goes to her own desk, picks up piece of black paper and comes back) Do you want this one to cover the top like that? Do you want to have this come on down? (Shows what she means)

Ch: (Standing by picks up curved piece of black paper) Maybe you could put it on this way.

T: How do you mean?

Ch: (Shows her)

T: Do you like that idea? (Pause) Maybe Mike would help you.

Ch: (Comes to teacher) Do I do those? (Points to arithmetic problems on the board)

T: Are you still working on arithmetic? No, you don't need to do that now.

Ch: (Shows something) Is this okay?

T: I think that would be all right. (Starts over toward two boys. On the way child shows her a mask) Oh, that's nice! (Reaches boys) Have you boys finished your work?

Boys: Yeah.

T: What did you use for hair?

Ch: (Points to mask on desk)

T: Oh, look at those teeth! (Touches one) Do you think they'll come off?

Ch: (Explains how he stuck them on and didn't think they would come off) I tried to make a Frankenstein too.

Ch: (Tells something about eyebrows for mask)

T: Maybe I can help you. Is this a happy face, a sorry face or what? (Cutting eyebrows) I'm not sure I can do this either. (Finishes cutting one eyebrow) How is that? Would you like to cut the other one? If you want it smaller, just trim it?

Ch: (Comes up with broken mirror)

T: That's all right.

Ch: Can we still use it?

T: I don't believe you'd better use it. You might cut yourself on the glass.

Ch: (Asks question)

T: That's fine.

Ch: Miss Dayley, I need some brown paper.

T: Look on the desk over there. (Points)

Ch: (Brings mask to teacher)

T: Now let's see, what else are you going to put on this?

Ch: Kleenex.

T: Right. Then it'll be ready to dry.

Ch: Can I set it out there?

T: Yes, I think it will dry faster.

Mike: (Calls across the room) Hey, Jimmie.

T: (Firmly) Mike. Mike. (Shakes her head)

T: (To another child) Do you like that? He looks like he's laughing too.

T: (Goes to boys still trying to get cloth foundation pinned on boy's head) Does he want one eye covered up?

Ch: Yes, but we can't get it so he can see out of the other one.

T: I'll see if I can help (Maneuvers cloth) Is that better? Can you see better? Who's under here?

Ch: (Gives name)

T: It's all right, you're coming alone fine.

Appendix E-15

Record 1227

The teacher was conducting a selective reading program. When the observers entered, the children were reading to friends or in small groups while one child read to the teacher alone.

T: Is this one of your favorite stories, Ruth?

Ruth: Uhm hmm!

T: Will you tell me a little bit about it?

Ruth: (Starts to tell the story of George, the little monkey who got into so much mischief, played tricks, etc.)

T: Why did he put it on here?

Ruth: (Tells more of the story; explains answer to the teacher's question; uses pictures to illustrate)

T: Oh! (Smiles)

Ruth: (Tells more)

T: Oh, he put him to bed. Isn't that nice?

Ruth: (Tells more of story)

T: Oh, well now, do you suppose he wanted to fly?

Ruth: . . . . . . liked to . . . .

T: Why could he fly when he had the balloons?

Ruth: Huh?

T: Why could he fly when he had a lot of balloons and not just one.

Ruth: The wind would get under them and . . . . .

T: Do you remember what happened when the balloons broke?

Ruth: . . . . floated down . . . .

T: Yes, he just floated down. I wish I had time to hear all of that story. It's rather long. I wonder if you'd like to choose a part you liked real well to read to me?

Appendix E-16

Ruth: I think I'd like to read this part right here.

T: You like that part. Okay. Read that to me.

Ruth: (Reads part she has chosen)

(During the time that Ruth is reading, another child comes up to the front and stands by the teacher, waiting quietly until she can give her attention to her)

T: (To Ruth) I liked the way you read that, Ruth. You read it as though you enjoyed it. Thank you for sharing the story. Will you tell Katy Joy to come, please.

T: (Turns to waiting girl) (Looks at the word in her book) Oh, this is the story of children who live in another country. Their names are a little different than ours. His name is Hans Gril. Do you think of any country in which they might have names like this? It could be Holland or Germany.

Ch: This is a story about Holland.

T: Hans Gril. That's good Dutch name.

(In the meantime, Katy Joy has come to the chair by the teacher and sits in it ready to read)

T: (Turns to Katy Joy; looks at book cover to identify book) You're reading about Betsy Ross. Tell me, do you like this book?

Katy Joy: Yes.

T: Tell me something that you liked about it. What is it about?

Katy Joy: (Tells that it is about a girl named Betsy who grew up and made the first American flag)

T: The first one?

Katy Joy: (Adds more to her story)

T: The very first one. Did this story take place just recently or a long time ago? (Child looks puzzled) Did it happen a few years back or many years back?

Katy Joy: Many years past.

T: Yes, that was when our country was very new. I wonder if . . . (Turns pages to find name--George) This George, (Points to name in book) do you know who that was? Tell me something that he did in your story.

Katy Joy: (Tells about George, in story, going to Betsy Ross to ask her to make the flag)

T: Do you know what she made the flag out of?

Katy Joy: She made it out of cloth.

T: Yes, she made it out of cloth. Was it like our flag that we have today?

Katy Joy: No.

T: Is there some part you'd especially like to read now?

Katy Joy: (Is still interested in finding out who George was)

T: I'm sure the George you're reading about was George Washington. Do you know about George Washington? Did you ever hear of George Washington?

Katy Joy: He was the first president.

T: Yes, he was the first president of our country. He lived at the same time that Betsy Ross lived. I feel sure that the George you're reading about is the George who was the first president. Now, is there some part you'd like to read to me?

Katy Joy: (Begins to read part of the story. When she comes to the word, "proper," she reads it, but hesitates as though unsure)

T: That's right! (Reads from book) "Running wasn't proper."

Katy Joy: (Continues reading)

T: Just a minute, dear. Could you tell me where she got her sovereign?

Katy Joy: (Doesn't know)

T: Did it tell you where she got her sovereign back in the story?

Katy Joy: No.

T: The sovereign is a coin--an English coin. You check back and see if you can find if it tells where she got the money. (Teacher turns pages as she talks) I'll be back in just a minute.

Katy Joy: (Looks for information she was asked to find)

T: (Gets up and goes to children who are reading in the corner, but are having a little difficulty giving full attention to the task) Are you about ready to read, Charles? I'm going to ask you in just a minute.

T: (Returns to Katy Joy)
(Another child is also waiting for help)

Ch: (Points to name in book)

T: Katrina. That's another good Dutch name.

Ch: She's the one who got the horse.

T: Oh, yes. She was the one who got the horse.

T: (To Katy Joy) Did we find it?

Katy Joy: Yes. (Tells the teacher something about a man giving the sovereign to the child in the story)

T: And not long after she got a schilling. This man gave it to her. That's where she got it. She was very happy. She had never had that much money before. Did she get her skates?

Katy Joy: Uhm hmm.

T: What did people say about her skating?

Katy Joy: They said it wasn't proper.

T: Yes, and too, she had to put the skates on boy shoes. They wouldn't fit on girl shoes, so what did they call her?

Katy Joy: A tomboy. They didn't think that was the right thing for her to do.

T: Especially in that day when the girls wore those long clothes that came down around their shoes and they couldn't run very fast or . . . . Today it's all right for girls to play and run and roller skate . . . . . I like it better the way it is today, don't you?

Katy Joy: Yes. In those days the girls couldn't have much fun.

T: Thank you very much, Katy Joy.

Katy Joy: (Goes back to her place to continue reading)

(Two children are standing by the teacher waiting for her help)

Rodney: Cathryn keeps telling me the words.

T: (To Rodney) And that doesn't help, does it?

Rodney: No.

T: (To Cathryn) Do you know how to help Rodney without telling him the words?

Cathryn: It's fun to tell him.

T: Fun for you, but how about Rodney?

Cathryn: It isn't fun for him.

T: (To both children) You go back. I don't think Maureen will do it again.

Cathryn: I'm not Maureen.

T: I'm sorry, I do get you mixed up. I'll try to remember.

(Rodney goes back to his seat)

Cathryn: (Stays to talk to the teacher) Can I read now?

T: No, not right now. Have you read to some other children?

Cathryn: Yes.

T: And did they feel you were doing it real well?

Cathryn: Yes.

T: I'd like to hear you read, but I promised to hear Charles next. I'll try to hear you real soon.

(Child brings book up to teacher and shows her something in it about rocks)

T: How're you doing now? How'd your experiment work out?

Ch: All right . . . . .

T: Why? Air in the water? You mean the air kept the water from coming up. Did you find another experiment you'd like to do?

Ch: Yes. (Shows her the experiment in the book which he has chosen to do)

T: Do we have everything you need?

Ch: I need a bottle and . . . . .

T: I don't have a bottle. Do you have a bottle you can bring?

Ch: Yes.

T: Let's get the things this week end. You get a bottle and I think I have an aquarium at home that I can bring.

T: (Goes to boy who is to read) Would you like to come now, Charles?

(Teacher and Charles sit at table where she has been listening to others read)

T: Let's see, Charles, just a minute, ... Are you getting interested in the story?

Charles: Yes.

T: Who's this?

Charles: Susan.

T: Susan, and what's she doing?

Charles: Playing.

T: Playing. What's she playing? What does she have to play with?

Charles: (Replies)

T: Who is this with her?

Charles: Daddy.

T: What's father doing?

Charles: (Replies)

T: Making a little wagon for . . . . . Would you like to read this page for me?

Charles: (Starts to read and hesitates on word)

T: Came.

Charles: (Reads again; then hesitates)

T: Up.

Charles: (Reads again; says 'blue' for correct word)

T: No, this is blue. (Points to word 'blue') This one (Points to word which Charles mispronounced) doesn't tell the color but the direction it goes.

Charles: (Reads again with corrected word; hesitates again)

T: Here.

Charles: (Reads; hesitates)

T: Here. (Again)

Charles: (Reads; hesitates)

T: Are.

Charles: Is this chair?

T: No, it says ball.

Charles: (Reads; hesitates)

T: Here.

Charles: (Reads; hesitates)

T: You.

Charles: (Finishes his story)

T: All right, that was nicely done. You had a little trouble with that word. (Points) It's not too hard to remember. Take your finger and frame it. That word is 'you'. See if you can find it again on this page.

Charles: (Finds word)

T: Can you find it again?

Charles: (Finds word again)

T: Yes. See if you can find it again on another page. (Helps him turn the page)

Charles: (Finds word)

T: (Turns page again) I see it on this page. It's hard to find, but there is one.

Charles: (Points to word 'your' instead of 'you')

T: Does this one look just like this. (Points to both words)

Charles: No, this one is 'you'.

T: (Closes book) Would you go over in the orange crate and on the top shelf see if you can bring me your book of little stories.

Charles: (Goes to crate but gets in wrong side)

T: Charles, it's in this one, honey. (Points to opposite end of orange crate)

Charles: (Gets in right end of crate and finds book)

T: That's it.

Ano. ch: Can I read?

T: In a few minutes, honey.

Charles: (Returns with book; hands it to teacher)

T: This is the story you wrote a while back. Do you remember what it was about?

Charles: (Reads entire story)

T: Good. That was a nice one and you read it nicely. And Charles wrote it. See, it has your name right here.

(Turns to another story) This one is about the sun. Do you remember what you wrote about the sun? Can you read it?

Charles: (Reads; hesitates on word)

T: Used.

Charles: (Finishes his story)

T: Good. You haven't illustrated this story yet, have you? Maybe you'd like to do that when you go back to your seat. (Turns page to another story) This is one you wrote about how time flies so fast. Can you read it?

Charles: (Reads) Time flies like a bird. It is like a bird too.

T: (Helps with three words while Charles reads above story)

Would you like to illustrate these two stories now? Take your crayolas and you can take your pages out of the book if you want to or if you like, you can fold the pages back so that you can work on it right in your book. Thank you, Charles.

Cathryn: Can I read?

T: Why don't you read with Katy Joy, and I'll hear Marcia read. (Katy Joy's partner) Will you tell her to come up?

Boy: (Same one who had experiment) Can I read?

T: I must hear Marcia now.

Boy: Oh, nuts!

T: I should be twins. You should have twin teachers so you could read when you want to.

Katy Joy: (Returns; comments on her story)

T: You mean Betsy Ross' name wasn't Ross in the first place. It was the name of the man she married. That's right. Did you find out whether the George you were reading about was General Washington?

Katy Joy: (Turns to part in book which explains who George Washington was; reads) (Closes book) What can I read now?

T: Have you finished this book already?

Katy Joy: Yes, I just finished it.

T: Good. Then you can get a book out of the cupboard. Go to that cupboard (Points) 1 - 2 - 3 - 4. (Counts from one end) You may need a chair to reach it.

(Marcia, Katy Joy's partner for whom the teacher had sent, comes up ready to read)

T: We have just about time to hear your story. You're reading "The Hare and the Tortoise." That's one of our favorite stories. This is one we always like, isn't it?

Marcia: I've read this one before.

T: You're reading this now because you want to put it on the tape recorder. And you're going to try to read slower.

Marcia: (Reads)

T: Do it just a little bit slower. (Demonstrates) "I can run faster than a deer." About that fast. Try it again.

Marcia: (Continues reading)

T: (As child finishes) All right now, how did you feel about it? Do you think you are ready to put it on the tape?

Marcia: I don't know.

T: I liked parts of it that you did very well. When you said, "On your marks! Get set! Go!" I was right there at the race with you.

And I thought you sounded very sleepy down here where you said, "Oh, hum, I'm tired."

And I could just see that rabbit's little tail go by when you said, "Swish, Swish!" and I could hear his feet when you said, "Thump, Thump!"

(Teacher uses a great deal of expression when she repeats or rereads these parts for the child)

T: Maybe you're reading just a little too fast to put on the tape recorder. You read rapidly when you read to yourself but when you read to others you need to read slowly enough for others to hear.

Marcia: (Makes comment which indicates that she thinks all reading should be slowed down and says she will slow down all of her reading)

T: No, don't slow down when you read to yourself. When you read to yourself and see the words, you can think them much faster than when you hear them or say them. So when you read out loud you have to read slowly, but when you read silently, read as fast as you can.

When I read to myself, I read fast--much faster than when I read to you. When I read to you I read slowly enough for you to hear and understand like this: (Demonstrates reading slowly, precisely, and with expression)

Do you hear what I mean? You try it. Read just that part.

Marcia: (Reads)

T: Now, what do you think? Is that a better speed? I'll tell you what--you practice reading again before I put it on the tape.

Jimmy: (Comes to teacher) Does this word say "change?"

T: Yes sir, Jimmy, that word is change. The word ends in "e" which makes the "a" say "ā".

(Jimmy leaves with book)

Ch: (Brings a box of word cards belonging to a word game) Here are the cards.

T: Thank you.

T: (To class) All right, boys and girls, if you are not at a good stopping place, find a place to stop and let's put our work away.

Gary: (Shows teacher some work done on a typewriter)

T: With your typewriter?

Gary: (Comments)

T: Do you have a typewriter?

Gary: (Comments about mother letting him bring the typewriter to school)

T: And she's going to let you bring it to school to share.

Katy Joy: (Brings book) I'd like to read this book.

T: Oh, that looks like such a good book. What are all the animals doing in that tree, do you suppose?

Katy Joy: (Responds)

Ch: (Brings picture for teacher to see)

T: Oh, how nice; you have the sun coming right up. Will you put it over there and then we'll fix it to put up.

Ch: (Brings book) Can I finish reading this tomorrow?

T: Mark the story if you'd like to.

Ch: I don't have a marker.

T: You don't have a marker. I'd be happy to give you one. (Teacher goes to her desk and gets child a marker)

Ch: Thank you.

T: You're welcome.

T: (To another child) Did you lose your chair? (Smiles at him knowingly, since one of the observers is apparently sitting on his chair)

Ch: (Picks up another chair at the table and takes it back to his place)

Ano. ch: May I have a marker too?

T: Oh, surely. These markers get away from us, don't they?

T: (To another child standing beside teacher's desk) Do you need one too?

Ch: (Nods yes) (Teacher gives him a marker too)

T: (Standing in front of room) I'll know when you're ready. You'll be sitting up nice and straight. (Waits without further comment until children were ready)

T: Boys and girls, the sun is so very hot that we won't have our rest period out of doors today, so let's go quietly and get our drinks; go to the lavatories; and come back in to play a game in here.

Boy: What game will we play, Seven-Up?

T: Oh, we may play Seven-Up, or maybe we'll play a different game.

Ch: (Comes to ask question)

T: Let's go get our drinks now.

(Teacher goes with group to end of the building to get drinks. She makes no further comment until time for conclusion of record passes)

Appendix F

Materials Related to Chapter VII

Appendix F-1

TABLE FI

ANALYSIS OF VARIANCE---READING (Teachers[a] x Categories)

Source of Variation	Sum of Squares	df	Variance Estimate	F
Categories (Columns)	367,615.73	6	61,269.29	188.06*
Teachers (Rows)	14,788.29	32	462.13	1.42
Remainder	62,551.19	192	325.79	
Total	444,955.21	230		

[a] Thirty-three teachers involved.

*Significant at the .001 level.

TABLE FII

ANALYSIS OF VARIANCE--ACTIVITY (Teachers[a] x Categories)

Source of Variation	Sum of Squares	df	Variance Estimate	F
Categories (Columns)	102,878.10	6	17,146.35	39.83*
Teachers (Rows)	8,496.10	24	354.00	.82
Remainder	61,985.88	144	430.46	
Total	173,360.08	174		

[a] Twenty-five teachers involved.

*Significant at the .001 level.

Appendix F-2

TABLE FIII

ANALYSIS OF VARIANCE--ARITHMETIC (Teachers[a] x Categories)

Source of Variation	Sum of Squares	df	Variance Estimate	F
Categories (Columns)	224,057.90	6	37,342.98	102.88*
Teachers (Rows	6,348.56	14	453.47	1.25
Remainder	30,491.10	84	362.99	
Total	260,897.56	104		

[a] Fifteen teachers involved.

*Significant at the .001 level.

TABLE FIV

ANALYSIS OF VARIANCE--SOCIAL STUDIES (Teachers[a] x Categories)

Source of Variation	Sum of Squares	df	Variance Estimate	F
Categories (Columns)	219,398.82	6	36,566.47	118.87*
Teachers (Rows)	7,665.86	22	348.45	1.13
Remainder	40,607.48	132	307.63	
Total	267,672.16	160		

[a] Twenty-three teachers involved.

*Significant at the .001 level.

TABLE FV

ANALYSIS OF VARIANCE--FACILITATING FUNCTIONS READING, SOCIAL STUDIES, ACTIVITY

Source of Variation	Sum of Squares	df	Variance Estimate	F
Situations (Columns)	329.88	2	164.94	1.77*
Teachers[a] (Rows)	1,327.78	14	94.84	1.02*
Remainder	2,607.16	28	93.11	
Total	4,264.82	44		

*Not significant.

[a] Fifteen teachers involved.

TABLE FVI

ANALYSIS OF VARIANCE---IMPOSITION GOOD, MEDIUM, AND POOR TEACHERS

Source of Variation	Sum of Squares	df	Variance Estimate	F
Between Groups	276.98	2	138.49	1.60*
Within Groups	2,072.20	24	86.34	
Total	2,349.18	26		

*Not significant.

TABLE FVII

ANALYSIS OF VARIANCE---FACILITATING GOOD, MIDDLE, AND POOR TEACHERS

Source of Variation	Sum of Squares	df	Variance Estimate	F
Between Groups	24.67	2	12.34	$<1^*$
Within Groups	4,829.95	24	201.25	
Total	4,854.62	26		

*Not significant.

TABLE FVIII

ANALYSIS OF VARIANCE--POSITIVE AFFECTIVITY GOOD, MIDDLE, AND POOR TEACHERS

Source of Variation	Sum of Squares	df	Variance Estimate	F
Between Groups	5,342.95	2	2,671.48	2.84^*
Within Groups	22,590.00	24	941.25	
Total	27,932.95	26		

*Not significant.

Appendix F-5

TABLE FIX

ANALYSIS OF VARIANCE---CONTROLLING FUNCTIONS (Order of Observation x Teachers[a])

Source of Variation	Sum of Squares	df	Variance Estimate	F
Order of Obs. (Columns)	4,271.38	2	2,135.69	1.13[*]
Teachers (Rows)	92,309.69	34	2,714.99	1.43[*]
Remainder	128,915.32	68	1,895.81	
Total	225,496.39	104		

[*] Not significant.

[a] Thirty-five teachers involved.

TABLE FX

ANALYSIS OF VARIANCE--FACILITATING FUNCTIONS (Order of Observation x Teachers[a])

Source of Variation	Sum of Squares	df	Variance Estimate	F
Order of Obs. (Columns)	178.46	2	89.23	1.39[*]
Teachers (Rows)	2,697.45	34	79.34	1.23[*]
Remainder	4,371.72	68	64.29	
Total	7,247.63	104		

[*] Not significant.

[a] Thirty-five teachers involved.

Appendix F-6

TABLE FXI

ANALYSIS OF VARIANCE---PERSONAL RESPONSE (Order of Observation x Teachers[a])

Source of Variation	Sum of Squares	df	Variance Estimate	F
Order of Obs. (Columns)	241.41	2	120.70	1.94*
Teachers (Rows)	3,339.65	34	98.22	1.58*
Remainder	4,220.81	68	62.07	
Total	7,801.87	104		

*Not significant.

[a] Thirty-five teachers involved.